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BY MAY MELLANBY,

FROM THE HOUSEHOLD AND SOCIAL SCIENCE DEPARTMENT OF THE LONDON UNIVERSITY, KENSINGTON.

(*Preliminary Report to the Medical Research Committee.*)

THE misery caused, both directly and indirectly, by unsound teeth is too well known to the medical profession and to the general public to need emphasis. The fact that dentistry plays such an important part in civilised communities to-day proves that the problem needs the further attention of medical research.

The majority of investigations so far carried out have dealt with the etiology of caries. The type of food, considered from the point of view of its hardness and softness, its liability to undergo bacterial decomposition with the production of acids, toxins, &c., has completely dominated the picture.

VIEWS ON ETIOLOGY OF DENTAL HYPOPLASIA.

The etiology of hypoplasia has received less attention. Several suggestions have, however, been put forward to account for the imperfect development of teeth. A particular defect of certain teeth has been associated with congenital syphilis; the exact method by which it is produced has not been demonstrated. Other types of hypoplasia, characterised by one or more bands of defective enamel, have been traced to one of the specific fevers or to some other acute illness. As regards the more generalised types of gross hypoplasia, the parts of the teeth usually affected point to some cause acting during the first two years or so of life. The association with infant feeding is obvious, but here again it is not known whether the results are due to insufficient food, diet of an unsuitable kind, the assimilation of harmful products, or intestinal disturbances set up by abnormal fermentative processes reacting on the trophic control of calcification.

Apart from these gross forms of hypoplasia, there is little doubt that marked differences exist in the degree of hardness of the enamel, the physical structure, and the perfection of calcification. The so-called "mottled teeth" exhibit in their partial lack of translucency such slight forms of hypoplasia. Between this and perfect enamel there must be many grades. Another hypothesis that also needs further investigation is that defective calcification is due to a deficiency of calcium salts in the diet.

SCOPE OF PRESENT INVESTIGATION.

The investigation to be described in this paper was undertaken primarily with the object of studying—

(1) The factors involved in the development of sound teeth and of the growth of the jaws in relation to the size of the teeth.

(2) The factors bearing on the immunity of erupted teeth to caries and other diseases.

In this preliminary paper I propose to describe experimental work which deals with the first of the above problems and will adduce evidence to show that—

(1) Hypoplasia of the teeth is caused largely by a deficient diet.

(2) The factor in the diet which controls the calcification of the teeth is something of the nature of an accessory food factor (vitamine).

(3) This factor has a similar distribution to that of fat-soluble A, and has recently been shown by E. Mellanby to be largely responsible for the calcification of bone, a deficiency of this substance in the diet being followed by the development of rickets.

Experiments dealing with conditions affecting the teeth after eruption are in progress, but it will be agreed that this question is, in many ways, of secondary importance; for if the enamel on all parts of the crowns of teeth is abundant and sound, and if the teeth are adequately spaced, then such teeth are less likely to be attacked by caries and other diseases.

The part of this work to be described here has involved the examination of the teeth of those puppies used by my husband, Dr. Edward Mellanby,[1] in the course of an extensive research on rickets made for the Medical Research Committee. Details of the diets will be found in a paper to be published immediately by him. Suffice it here to say that the diets consisted chiefly of white bread and separated milk, about 200 c.cm. per diem, together with the substances to be tested.

For work of this nature domesticated dogs are eminently suitable, in the first place because their normal diet is very similar to that of man, and in the second place because the formation and development of their teeth is more comparable with his than is the case with most other available animals.

In examining the jaws and teeth attention has been paid to the study of (1) the time of shedding of the deciduous teeth; (2) the time of eruption of the permanent dentition; (3) the arrangement of the teeth in the jaws; (4) the condition of the enamel, &c.; (5) the calcium content of the teeth.

RESULTS OF EXPERIMENTS.

Fig. 1 represents the lower jaws of three puppies of the same litter. When approximately 8 weeks old they were put on to diets the only differences in which were that (*a*) contained 10 g. of cod-liver oil per diem, (*b*) 10 g. of butter, and (*c*) 10 g. of linseed oil. The puppies were killed 15 weeks after the diets were started. It will be observed that (*a*) has lost all its deciduous teeth, while all the permanent teeth are fully developed; (*b*) comes next in order—here some of the deciduous teeth are still firm in the jaws, while the permanent teeth are not all erupted; (*c*) is still further behind, both as regards the shedding of the deciduous and the eruption of the permanent teeth. The arrangement of the teeth in the jaws is also better in (*a*) and (*b*) than in (*c*). The condition of the enamel varies in each case, appearing perfect in (*a*), slightly defective in places in (*b*), while in (*c*) the enamel on that part of the crown near the neck of the incisors is dark brown and that on the carnassials, except the top of the cusps, is dull brown. (See also Fig. 3, 145(*c*).)

Formula Used in Description.

$\dot{1}^{1\,2\,3} \times 2$ indicates 1st, 2nd, and 3rd incisors of both sides.
c × 2 ,, canines on ,, ,,
$pm^{1\,2\,3} \times 2$,, 1st, 2nd, and 3rd premolars ,, ,,
$m^{1\,2} \times 2$,, 1st and 2nd molars on both sides.
A line below letters means that letters refer to upper jaw.
,, above ,, ,, ,, lower ,,
(L) and (R) before letters indicate left and right respectively. After letters (j) = just, (n) = nearly.
($\frac{1}{2}$), ($\frac{1}{4}$), &c., after letters indicate that teeth are half and a quarter erupted, &c.
Thus $\underline{1} \times 2\ (\frac{1}{2})$ = both 1st upper incisors half erupted.

Dentition in dogs:—

(*a*) *Deciduous.*

$$\frac{\dot{1}\,3,\ c\,1,\ pm\,3}{\underline{1}\,3,\ c\,1,\ pm\,3} \times 2 = 28.$$

(*b*) *Permanent.*

$$\frac{\dot{1}\,3,\ c\,1,\ pm\,4,\ m\,2}{\underline{1}\,3,\ c\,1,\ pm\,4,\ m\,3} \times 2 = 42.$$

The 4th upper premolars and the 1st lower molars are modified in carnivores to form the carnassials.

Detailed Notes on Teeth of Puppies (a), (b), (c), (d), (e), (f).

1. *Deciduous Teeth Still Retained.*

(*a*) None.

(*b*) $\dfrac{c \times 2}{(L)\ c,\ pm^{4} \times 2}$

(*c*) $\dfrac{c \times 2,\ pm^{2\,3} \times 2}{(R)\ c,\ pm^{1\,2\,3} \times 2}$

(*d*) $\dfrac{(L)\ \dot{1}^{3},\ c \times 2,\ pm^{1\,2\,3} \times 2}{c \times 2,\ pm^{1\,2\,3} \times 2}$

(*e*) $\dfrac{\dot{1}^{2} \times 2,\ c \times 2,\ pm^{2\,3} \times 2}{(L)\ \dot{1}^{3},\ c \times 2,\ pm^{1\,2\,3} \times 2}$

(*f*) $\dfrac{\dot{1}^{3} \times 2,\ (L)\ pm^{3}\ *}{c \times 2,\ pm^{3} \times 2\ *}$

* Very loose, knocked off before photo taken.

2. *Permanent Teeth Erupted.*

(*a*) $\dfrac{\text{all}}{\text{all except } m^{3} \times 2}$

(*b*) $\dfrac{\dot{1}^{1\,2\,3} \times 2,\ c \times 2\ (\frac{1}{2}),\ pm^{1\,2\,3} \times 2\ (j),\ carn. \times 2\ (\frac{3}{4}),\ m^{1} \times 2\ (\frac{3}{4}),\ m^{2} \times 2\ (n)}{\underline{1}^{1\,2\,3} \times 2,\ c \times 2\ (\frac{1}{2}),\ pm^{1\,2\,3} \times 2\ (j),\ pm^{4} \times 2\ (\frac{1}{2}),\ carn. \times 2,\ m^{4} \times 2\ (j)}$

(*c*) $\dfrac{\dot{1}^{1\,2\,3} \times 2,\ c \times 2\ (\frac{1}{2}),\ pm^{1} \times 2\ (j),\ carn. \times 2\ (\frac{1}{2}),\ m^{1} \times 2\ (\frac{1}{2})}{\dot{1}^{1\,2\,3} \times 2,\ c \times 2\ (\frac{1}{2}),\ carn. \times 2,\ m^{2} \times 2}$

(*d*) $\dfrac{\dot{1}^{1\,2} \times 2,\ \dot{1}^{3} \times 2\ (\frac{1}{2}),\ pm^{1} \times 2\ (j),\ m^{1\,2} \times 2\ (\frac{1}{2})}{\dot{1}^{1\,2} \times 2,\ \dot{1}^{3} \times 2\ (j),\ pm^{1} \times 2\ (n),\ carn. \times 2,\ m^{2} \times 2}$

(*e*) $\dfrac{\dot{1} \times 2,\ \dot{1}^{2\,3} \times 2\ (n),\ pm^{1} \times 2,\ (R)\ m^{1}\ (\frac{1}{4}),\ (L)\ m^{1}\ (j)}{\dot{1}^{1} \times 2,\ (L)\ \dot{1}^{2}\ (j),\ (R)\ \dot{1}^{2},\ pm^{4} \times 2\ (j),\ carn. \times 2}$

(*f*) $\dfrac{\dot{1}^{1\,2} \times 2.\ (L)\ pm^{2}\ (n),\ (R)\ pm^{2}\ (j),\ pm^{3} \times 2\ (j),\ carn. \times 2\ (\frac{1}{4}),\ m^{1} \times 2\ (\frac{1}{4})}{(L)\ \dot{1}^{1},(R)\ \dot{1}^{1}\ (\frac{1}{2}),(L)\ \dot{1}^{2}\ (\frac{1}{4}),(R)\ \dot{1}^{2}\ (n),pm^{1} \times 2\ (n),pm^{2\,3}\ (j),carn. \times 2,m^{2} \times 2}$

3. *Arrangement of Teeth in Jaws.*

(*a*) and (*b*) Normal.
(*c*) Lower incisors irregular and somewhat crowded together.
(*d*, *e*), and (*f*) Upper incisors fairly regular, but lower ones—(*f*) very irregular and crowded.

[1] Journ. of Physiol., January, 1918.

4. *Condition of Enamel of Permanent Teeth.*

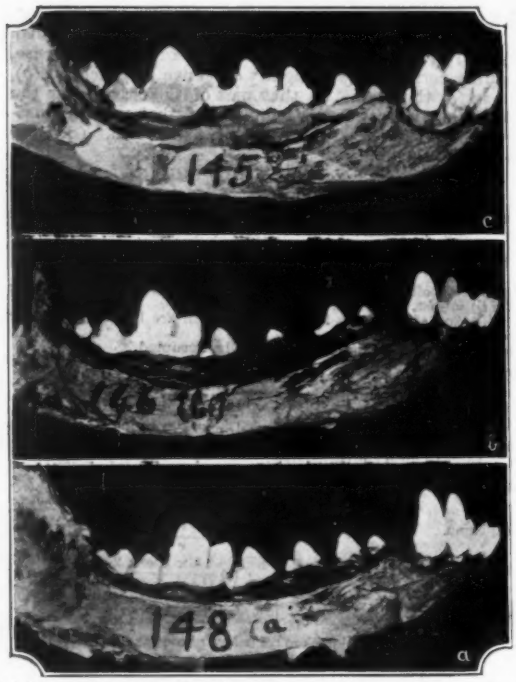
(*a*) White and shiny.
(*b*) On whole white and shiny; back teeth very slightly yellow.
(*c*) Dark brown colouring on that part of incisors near neck, especially of upper incisors; enamel on greater part of carnassials and first molars dull brown.
(*d*) The enamel does not appear very good on any of the teeth, but it is especially defective on first incisors and first molars of upper jaw and on that part of lower carn. near neck.
(*e*) The enamel fairly good on all permanent teeth.
(*f*) The enamel on all the teeth is very defective, except perhaps on tips of some of the cusps.

These experiments and others of the same type show that when linseed oil is the only fat in the diet, then there is a delay in the shedding of the deciduous teeth and in the development of the permanent dentition. The animal fats, and more particularly cod-liver oil, cause these changes to proceed in a normal way. Again, the arrangement of the teeth and their appearance is much better when animal fats have been eaten.

CONSIDERATION OF POSSIBLE INFLUENCE OF ILL-HEALTH.

A criticism to be met in this type of work is that any condition of ill-health during the period of the experiment may have been responsible for the changes described. It is true that these puppies suffered from mild attacks of distemper and that none of them grew very rapidly (on the average 2 kg. in the 15 weeks). Their periods of mild illness and their rates of growth were, however, practically speaking, identical, and could, therefore, not be the cause of the variations observed in the dentition.

FIG. 1.—*Age at Death about 5 Months 3 Weeks.*



(*a*) 1 g. cod-liver oil per diem added to diet; (*b*) 10 g. butter; (*c*) 10 g. linseed oil. All deciduous teeth of (*a*) shed, some remaining in (*b*), but most left in (*c*). Permanent teeth more fully erupted in (*a*) than in (*b*) and in (*b*) than in (*c*). Enamel in (*c*), especially near neck of incisors and the carnassials, is not nearly as good as in either (*a*) or (*b*).

In order to meet such a criticism in a more thorough way I will consider another set of experiments, illustrated in Fig. 2. Here again the lower jaws of three puppies—(*d*), (*e*), and (*f*)—of the same litter are shown. They are a larger breed of dog than those shown in Fig. 1. The puppies were in this case also about 8 weeks old when the experiment, which lasted 15 weeks, was started. The source of fat in each case was 10 g. of linseed oil per diem. Their relative rates of growth in the 15 weeks can be seen in the following table:—

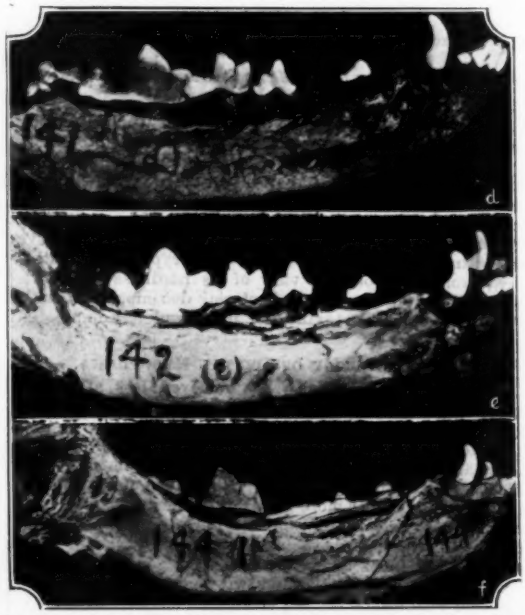
TABLE I.

	Wt. at beginning.	Wt. at end.	Increase.
(*d*)	2490 g.	5820 g.	3330 g.
(*e*)	2675	6820	4145
(*f*)	3690	8825	5135

It must be stated here that although (*e*) was on the same articles of diet as (*d*) and (*f*) for 6½ weeks, yet, from this time until the end of the experiment, 10 g. of butter were given daily in addition to the linseed oil.

It will be seen that all the teeth in Fig. 2 are delayed, not so much in the loss of the deciduous teeth as in the

FIG. 2.—*Age at Death about 5 Months 3 Weeks.*



The diets of (*d*), (*e*), and (*f*) all contained 10 g. of linseed oil per diem. (*e*) had in addition 10 g. of butter from 7th to 15th weeks. The majority of the deciduous teeth in (*f*) have been shed ($pm^3 \times 2$ knocked out before photograph taken), but the permanent ones are very delayed. The enamel on most of the teeth of these dogs is poor, especially in the case of (*f*), it is best in (*e*). The size of the jaw in the case of (*f*) is in reality greater than is the case in (*d*) and (*e*). The magnification is not so great in this photograph.

complete eruption of the secondary dentition. More striking still is the amount of defective enamel. In (*f*) there is hardly any white enamel, and that present is so soft that it can be cut with a scalpel. There is considerable irregularity in the setting of the teeth, especially in (*f*). In fact, the teeth of (*f*), the most rapidly growing puppy, are in every way worse than those of (*d*). In (*e*) the bad effects of the diet have been saved to some extent by the addition of butter after the first few weeks. Then, again, the teeth of (*d*) are distinctly worse than those of (*e*), which grew comparatively slowly.

As a general rule, it is difficult to associate rapid growth with ill-health, and yet we have seen in these experiments that the teeth of the more rapidly growing puppies are worse, whether the comparison is confined to the same or to another family. It seems impossible, therefore, to escape the conclusion that the malformed teeth are the result of some specific influence of the diet, such as has been suggested.

CALCIUM CONTENT OF TEETH.

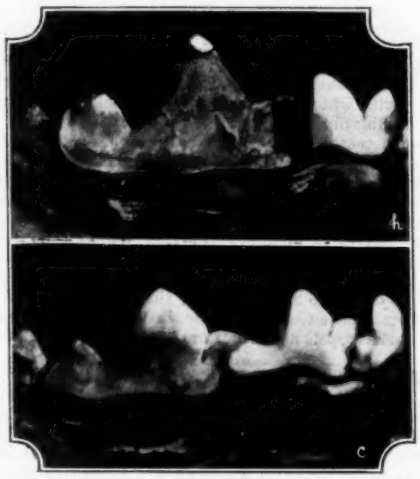
If we consider next one aspect of the chemical side of the problem, we see (Table II.) that the calcium content of the teeth may be influenced by the diet, although the actual intake of calcium salts would appear to be adequate.

TABLE II.

No. of exp.	Special factor in diet.	Tooth taken.	Wt. of dry tooth.	Total CaO.	% CaO.
90	Suet.	Lower carn.	1·451 g.	0·507 g.	36·4
90	,,	3 l. incisors.	0·438 ,,	0·156 ,,	36·1
94	Yeast.	Lower carn.	0·851 ,,	0·296 ,,	34·8
101	Butter.	,,	1·291 ,,	0·440 ,,	34·0
122	Calcium phosp.	,,	0·601 ,,	0·186 ,,	30·9
122	,,	3 l. incisors.	0·188 ,,	0·059 ,,	31·8
143	Linseed oil.	Lower carn.	0·851 ,,	0·260 ,,	30·5

It will be seen from the above table that there is a great variation both in the weight of the teeth and in the calcium content (reckoned as calcium oxide). For example, when either suet or butter is added to the diet the carnassials weigh 1·451 g. and 1·291 g. respectively, the calcium content being 0·507 g. and 0·44 g. CaO, while when the fat is linseed oil the weight of the tooth is 0·851 g. and the calcium content reckoned as CaO is 0 260 g.

FIG. 3.



Enlarged photograph of the lower carnassial of (*c*) and (*h*) showing white enamel only on the apex of the teeth.

Causation of Low Calcium Content of Teeth.

It may be suggested that the low calcium content in this and in other similar experiments is due to a deficiency of calcium in the diet. We should certainly expect that the calcification of the teeth and bones would be imperfect if the calcium content of the diet of young animals were deficient or even on the border-line of the animals' needs. This explanation, however, does not seem to cover the experiments here described. For instance, comparing Experiments 90, 101, and 143 (Table II.), the calcium content of the diet was, practically speaking, identical, and yet the calcification of the teeth is good in the first two cases and poor in the last. Then, again, referring to the puppies (*a*)-(*f*), the amount of calcium given was the same in each case, and yet the condition of the teeth was very different, and I have no doubt but that the calcium content of the teeth will prove to be greater in (*a*) and (*b*) than in any of the others, and that it will be least in (*f*).

The only explanation on the calcium deficiency hypothesis is that the calcium salts are not equally absorbed into the blood stream owing to the action of the different fats. The following experiments would seem to negative this criticism.

In Experiment 122 (Fig. 4 (*k*) and Table II.) 5 g. of calcium phosphate were added daily to the diet, the fat of which was linseed oil. The experiment lasted about 12 weeks. The deciduous teeth were late in being shed and the permanent ones were late in erupting. The enamel on many of the teeth was either defective or absent. The calcium content of one lower carnassial was found to be only 0·186 g. (CaO), the weight of the tooth being 0·601 g.

There is always the possibility that the puppy was unable to make use of the calcium in this form. To exclude this experiments are now in progress in which the quantity of separated milk in the diet has been raised to 400 c.cm. and more daily. The teeth, in the case of one of these puppies which has been dieted for nearly three months, are poorly formed, and there is, so far, no evidence that the increased calcium in the diet, although given in a natural form, has improved matters.

There does not seem much doubt, then, that the puppies received an adequate supply of calcium in a form which ensured access to the blood. There is evidence, however, that the ameloblasts and other cells, which normally regulate the deposition of calcium in the developing teeth, are unable to perform this function successfully, owing to the lack of one or more factors in the blood stream which normally regulate this function. This factor cannot be either proteins, carbohydrates, fats, or salts, but is possibly something of the nature of an accessory food factor. Whether this accessory factor acts directly on the special cells or indirectly through some other tissues, such as the ductless glands, remains to be seen.

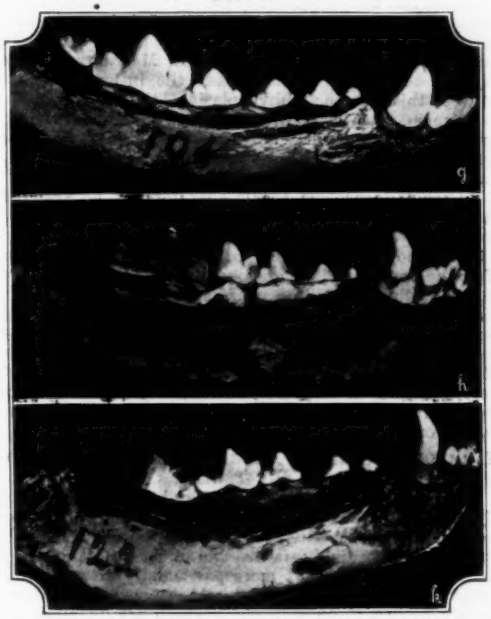
Effect of Time at which Diet is Started.

The appearance of the permanent teeth resulting from these deficient diets suggests that the extent to which the enamel, &c., is defective depends on the time at which the diet was started. In the human being the individual teeth calcify at different periods, starting before birth and ending at about 18 years of age. In puppies these changes cover a much shorter period of life; consequently one would not expect the picking out of specific teeth to be so prominent in puppies as it is in children. Nevertheless, even in puppies it is seen that in some teeth the enamel appears normal, while on others it is defective.

In the experiments so far completed the teeth most commonly affected are the lower carnassials. An examination of some of these teeth is very interesting. The enamel on the apex of the cusps may be white and shiny, while that on the rest of the tooth is either coloured (Fig. 3 (*c*)) or absent (Fig. 3 (*h*)). In Fig. 3 (*h*) the carnassial looks like a snow-capped mountain, for the only trace of white enamel is on the tip of the large cusps.

There is some evidence to show that, if the diet is only started when the puppy is over 3 months old, then the development of the teeth is little, if at all, affected. For instance, in Experiment 104 (Fig. 4 (*g*)), the puppy was

FIG. 4.



(*g*) About 7½ months old. 10 g. linseed oil per diem added to diet, which was, however, not started till the puppy was about 14 weeks old. The teeth appear quite normal. (*h*) About 5½ months old. 10 g. linseed oil per diem added to diet. Shows delayed dentition and imperfect development of enamel especially on the incisors and carnassials (see also Fig. 3 (*h*)). (*k*) About 5½ months old. 10 g. linseed oil and 5 g. $Ca_3(PO_4)_2$ per diem added to diet. Shows delayed dentition and imperfect development of enamel. (For CaO content see Table II.)

about 14 weeks old when the diet, containing linseed oil as the fat, was started. The teeth are white and shiny, and they are regularly arranged in the jaw. One lower carnassial weighed 1·412 g. and the CaO content was 0·501 g.

The Question of an Accessory Food Factor.

It is always possible that chewing hard crusts, bones, &c., may improve the circulation in the developing jaws and so cause better teeth formation, but it cannot explain the results described in this paper, for in no case was hard food of any kind given. From the point of view of bacterial

action and the production of toxic products, the diets would appear, in most cases, to be similar, except in so far as the fats are concerned.

What, then, is the factor (or factors) in the diet responsible for these changes? We have seen that the puppies fed on animal fats such as cod-liver oil, butter, and suet had the best teeth, whereas those fed on linseed oil had the worst. There is evidence that other vegetable oils—for instance, arachis oil and cotton-seed oil—also have deleterious effects.

As has been already suggested, the metabolic factors normally involved in the process of teeth development may be of the nature of accessory food factors. It is now recognised that fat-soluble A is present in abundance in cod-liver oil, butter, and animal fats generally, and is deficient in vegetable fats. The whole subject of accessory food factors and the part they play in health and disease is in its infancy, and therefore cannot be accepted as explaining in an unquestionable way facts such as are here described. But for the want of a better mode of expressing the general results of these experiments, one may say that a deficiency of fat-soluble A in the diet is accompanied by abnormal development of the teeth.

DEFECTIVE TEETH AND RICKETS IN CHILDREN.

A child's diet is most likely to be deficient in fat-soluble A from the ninth month to about the second year of its life; that is, at the transition period between a complete milk diet and one approximating to that of the adult. The permanent teeth calcifying at this period are the incisors, the canines, and the first molars, and it is just these teeth in children that are most commonly hypoplastic and carious. Since rickets is commonest in children during these early years, it has been suggested by Dick[2] and others that this disease is the cause of these special teeth being so commonly defective. The work described in this paper, taken in conjunction with the experiments of E. Mellanby on rickets, puts on to an experimental basis the intimate connexion between this disease and hypoplasia of the teeth.

In some cases even the deciduous teeth of children are hypoplastic and carious. Now the crowns of these teeth are developed, for the most part, before birth and in the first few months of extra-uterine life, and therefore the child must depend on the mother for any necessary food factors. McCollum[3] has shown that the animal body has not the power of synthesising these factors, although it has a limited power of storage. In order to supply her offspring after the first part of her pregnancy the mother must have an adequate supply of all the necessary accessory factors in her diet. If the accessory food factor theory is the real explanation of the facts described in this paper it ought to be possible to produce similar changes in the deciduous teeth of puppies by feeding a pregnant bitch on those diets which have been shown to prevent normal tooth development in young animals. Experiments on these lines are now being carried out.

HARMFUL NATURE OF MODERN DIETARY IN REGARD TO THE TEETH.

One can now see a rather obscure but still a real picture illustrating, in part at any rate, the cause of the defective teeth of modern civilisation. A perusal of a list of the substances containing fat-soluble A makes it clear that civilised conditions, and more particularly those conditions met with in urban life, exaggerate the part played in the dietary by just those substances which are deficient in this type of accessory factor. Our diet, particularly that of the poor, is now more than ever made up of specially prepared cereals, such as wheat, rice, oats, &c. Meat and the animal fats tend to play a smaller part. Vegetable fats, in the form of margarines, &c., are superseding butter, whole milk is being more and more excluded from the diet of the poor, partly at present because of the cost and partly because of a curious antipathy that many people have towards it. Then, again, with the development of civilisation, breast-feeding is not so commonly practised and, when practised, is often continued for only a short time. On the accessory food factor theory one can also understand why the Esquimaux in his own country, where flesh and blubber are the staple articles of diet, has such excellent teeth, while the inhabitants of Chili, who live chiefly on cereals, have teeth which are much less sound.

There is no doubt that our modern dietary is harmful as far as the teeth are concerned, and, if the results of the present work and the deductions made are correct, the teeth of the people of this country will tend to become worse, unless our diet consists in the future more of whole milk and other foods containing fat-soluble A and less of bread, rice, potatoes, &c., which are deficient in this factor.

SUMMARY OF RESULTS.

1. A diet containing in abundance those articles with which the fat-soluble A accessory food factor is associated—e.g., cod-liver oil, butter, &c.—allows the development in puppies of sound teeth.

2. A diet otherwise adequate but deficient in the substances with which fat-soluble A is associated brings about the following defects in puppies' teeth: (*a*) Delayed loss of deciduous teeth. (*b*) Delayed eruption of the permanent dentition; in some cases the delay in the eruption of the permanent teeth is more marked than the delay in the loss of the deciduous teeth. (*c*) Irregularity in position and overlapping, especially of the incisors. (*d*) Partial absence of or very defective enamel. (*e*) Low calcium content; the deficiency in calcium salts may result in the teeth being so soft that they can be cut with a scalpel.

3. The evidence makes it clear that this is an instance of diet affecting the teeth from the inside and is independent of bacterial sepsis and other oral conditions associated with food.

4. These results cannot be considered as being due to acute illness or "malnutrition," for (*a*) the improvement to the teeth by the addition of fat-soluble A containing substances (animal fats, &c.) is as characteristic as the deleterious effect of a deficient diet; (*b*) there is evidence that the defective teeth are most pronounced in the rapidly growing puppies, and it is difficult to associate rapid growth with illness or "malnutrition," as generally understood.

5. This work, taken in conjunction with the experiments of E. Mellanby on rickets, puts the close relationship between hypoplastic teeth and rickets on to an experimental basis.

I wish to acknowledge with gratitude the advice kindly given me by Mr. Norman Bennett.

[2] Lawson Dick: Proc. R.S.M., vol. ix., p. 83.
[3] McCollum, Simmonds, and Pitts: Amer. Journ. Phys., vol. xli., p. 361.

TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS.

BY JOHN ADAMS, F.R.C.S. ENG.,
MEDICAL OFFICER IN CHARGE OF THE THAVIES INN VENEREAL CENTRE FOR PREGNANT WOMEN.

IN THE LANCET of Nov. 23rd, p. 707, a report was published of a paper which I read recently before the Royal Society of Medicine. This paper was illustrated by a list of cases, reproduced now on pp. 772, 773, giving the results of treatment in regard to 24 babies born at the hospital of syphilitic mothers. Of these babies 5 were born with a negative Wassermann reaction; 7 became negative after treatment. Three mothers had no treatment before the death of the baby in utero. One baby died from syphilis; 1 died suddenly without any apparent cause; 1 was born dead. Six babies remain positive under treatment and are doing well. Six other babies were born of syphilitic mothers since the list of cases was drawn up, and of these 3 are already negative.

With the exception of 2 out of the 24 cases, the whole were cases of acute syphilis in the mother. They came in the primary or early secondary stage, and by taking cases of the babies at the beginning we were dealing with them at a time when the syphilitic virus probably has more effect on the child than it would have later on.

The first case has been under observation for six months. The mother has been treated, but not the child, and up to now nothing has developed.

There are no particular remarks as to Case 2.

Case 3 is rather interesting because it was a bad case of syphilis. I remember well Sir Jonathan Hutchinson, for whose memory I have the greatest regard, saying that the cases which were salivated very often did extremely well. In this case the salivation was severe.

In Case 4 the positive reaction in the child has remained, and the curious thing is that for nine months the child continuously gained weight, and, indeed, if I were choosing children for a baby show, this would be one of my selections.

CASE 7.

Case 5 went on the even tenor of its way, and the reaction remained negative.

In Case 6 the child went from strongly positive to positive, and put on 10 lb. weight; it would no doubt have become perfectly negative had the treatment been more regular. The treatment was interrupted in this case by an outbreak of eczema.

Of Case 7 a photograph is reproduced.

In Case 8 there is now only a suspicion of syphilis in the child. It was in the hospital about two months, and consequently there was a very short time in which to carry out complete treatment.

Case 9 became perfectly negative; this was one of the very bad cases at the beginning.

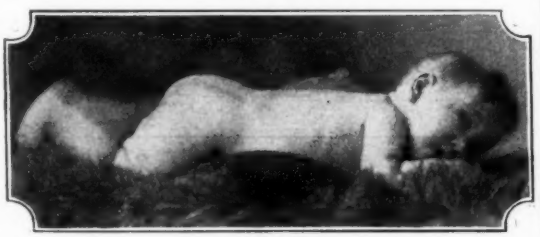
Case 10 also became perfectly negative.

Case 11 is another very interesting case. The child lost weight at one period of its career, but that was due to insufficient feeding by the mother. These mothers are often incapable of feeding the children by the breast only.

Case 12 was born negative, and on this case there is very little to say except that the mother had not recent syphilis.

Case 13 was also born negative.

Case 14 (see photograph) like Case 4, had a strongly positive reaction the whole time, except on one occasion when it was positive, but not strongly positive. In this case also the treatment was irregular, but it has been more regular recently, and now, since the list of cases was drawn up, it is only positive, not strongly positive.



CASE 14.

In Case 15 the child, I believe, died from syphilis. Only two injections were given. The child was very poor from birth and seemed extremely unlikely to live.

I pass over some of the ensuing cases, remarking that of these born dead some were probably dead before there was any treatment at all. A photograph is reproduced of Case 17.

Case 22 was an extraordinary case. This child was a 6½ months child as far as could be estimated and weighed only 3 lb. 4 oz. at birth. It had every sign of syphilis and seemed unlikely to survive more than a few days. It did not die, however, and its weight went up to 5 lb. 14 oz. Then, without any reason so far as could be seen it died quite suddenly in a screaming fit. I got particulars of the post-mortem, and so far as can be judged, there was no reason why the child should have died from syphilis.

Case 23 became negative under treatment. Case 24 was born dead, and probably had died before treatment was given at all.

CASE 17.

The progress of the babies is further shown in the following table:—

Weights at Weekly Periods after Birth.

Case 1.

lb.	oz.	
7	0	3.12.17
6	12	10.12.17
7	0	17.12.17
7	8	24.12.17
8	4	31.12.17
8	6	7.1.18
9	0	14.1.18
8	14	21.1.18
9	1	28.1.18
9	10	4.2.18
9	12	11.2.18
10	1	18.2.18
10	12	4.3.18
10	14	18.3.18
11	12	1.4.18
12	4	15.4.18
12	10	22.4.18

Case 2.

7	10	26.12.17
7	10	2.1.18
8	2	9.1.18
8	10	16.1.18
9	1	23.1.18
9	10	30.1.18
9	12	6.2.18
10	8	13.2.18
10	12	17.3.18
12	6	6.4.18
13	4	21.4.18
13	12	5.5.18
14	0	9.6.18
14	4	23.6.18
14	8	1.7.18
15	0	21.7.18
15	0	18.8.18
15	0	1.9.18
14	14	12.10.18

Case 3.

5	14	4.1.18
5	14	11.1.18
6	0	18.1.18
6	1	25.1.18
6	6	1.2.18
6	10	8.2.18
7	3	15.2.18
7	8	22.2.18
7	8	29.2.18
7	12	8.3.18
9	8	6.4.18
10	4	21.4.18
10	6	5.5.18
10	12	9.6.18
11	0	23.6.18
11	8	7.7.18
12	6	18.8.18

Case 4.

7	12	7.1.18
7	15	14.1.18
8	2	21.1.18
8	12	28.1.18
8	14	4.2.18

Case 4 (cont.)

9	8	11.2.18
10	8	18.2.18
11	0	25.2.18
14	8	5.5.18
15	6	26.5.18
17	6	29.7.18
18	4	1.9.18
19	4	15.9.18
19	4	13.10.18

Case 5.

7	0	18.2.18
6	12	25.2.18
7	2	4.3.18
7	6	11.3.18
7	8	18.3.18

Case 6.

5	8	18.2.18
5	14	25.2.18
6	6	4.3.18
6	12	11.3.18
7	0	18.3.18
7	2	25.3.18
7	12	1.4.18
8	0	8.4.18
8	10	15.4.18
13	0	21.7.18
15	12	13.10.18

Case 7.

8	8	18.2.18
8	8	25.2.18
9	2	4.3.18
9	12	11.3.18
10	0	18.3.18
10	0	25.3.18
9	12	1.4.18
10	0	8.4.18
10	6	15.4.18
11	0	22.4.18
11	2	29.4.18
11	10	6.5.18

Case 8.

7	2	4.3.18
7	12	11.3.18
8	0	18.3.18
8	2	25.3.18
8	6	1.4.18
8	12	8.4.18
12	0	2.6.18

Case 9.

6	12	11.3.18
7	0	18.3.18
7	4	25.3.18
7	4	1.4.18
7	8	8.4.18
7	12	15.4.18
7	15	22.4.18
8	2	29.4.18
8	5	6.5.18
8	10	13.5.18

Case 9 (cont.)

8	15	20.5.18
9	0	27.5.18
9	2	3.6.18
9	6	8.6.18

Case 10.

6	4	25.2.18
6	8	4.3.18
6	12	11.3.18
7	2	18.3.18
7	10	25.3.18
7	12	1.4.18
7	14	8.4.18
8	8	15.4.18
9	3	22.4.18
9	8	29.4.18

Case 11.

5	14	25.3.18
6	0	1.4.18
6	0	8.4.18
6	4	15.4.18
6	12	22.4.18
6	9	29.4.18
6	2	6.5.18
6	2	13.5.18
6	2	20.5.18
6	0	27.5.18
5	14	3.6.18
6	1	10.6.18
6	8	17.6.18
7	2	24.6.18
7	10	1.7.18
8	0	8.7.18
8	6	15.7.18
8	14	22.7.18
9	0	29.7.18
9	12	18.8.18
9	4	1.9.18

Case 13.

4	14	8.4.18
4	10	15.4.18
5	2	22.4.18
5	4	29.4.18
5	11	6.5.18
6	5	13.5.18
6	12	20.5.18
7	4	27.5.18
7	8	3.6.18
7	14	10.6.18
8	0	17.6.18
8	10	24.6.18

Case 14.

7	5	23.4.18
7	13	30.4.18
8	3	6.5.18
8	8	13.5.18
9	1	20.5.18
9	6	27.5.18
10	2	3.6.18
11	8	23.6.18
13	2	21.7.18

Case 14 (cont.)

14	4	18.8.18
14	13	15.9.18
15	5	20.10.18

Case 15.

5	3	6.5.18
5	4	13.5.18
5	6	20.5.18
5	4	27.5.18
4	4	2.6.18

Case 17.

6	13	6.5.18
7	4	13.5.18
7	11	20.5.18
8	4	27.5.18
9	0	3.6.18
9	4	10.6.18

Case 20.

6	13	10.6.18
7	6	17.6.18
7	10	24.6.18
8	0	1.7.18
8	12	8.7.18
9	2	15.7.18
9	6	22.7.18
9	14	29.7.18
9	14	5.8.18
10	6	12.8.18
10	12	19.8.18
11	4	26.8.18
11	4	2.9.18
11	12	9.9.18
12	6	16.9.18
12	14	23.9.18
13	4	30.9.18

Case 22.

2	14	15.6.18
2	15	24.6.18
3	4	1.7.18
3	10	8.7.18
3	12	15.7.18
4	0	22.7.18
4	6	29.7.18
4	12	5.8.18
5	2	12.8.18
5	8	19.8.18
5	14	26.8.18

Case 23.

6	2	1.7.18
6	12	8.7.18
7	2	15.7.18
7	12	22.7.18
8	6	29.7.18
8	14	5.8.18
9	6	12.8.18
10	0	19.8.18
10	4	26.8.18
10	12	2.9.18
11	8	15.9.18
12	4	13.10.18

I am aware that the period of one year is all too short in which to bring these tests of syphilitic cases to perfection. I have given the subject, however, much thought and consideration, and I feel amply rewarded by the results.

TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS: DETAILS OF 24 CASES.

G.c., General condition. Pap. syphl., Papular syphilides. Nov., novarsenobillion. Salv., salvarsan; figure indicates number of injections. Iv. and Im., Intravenous and intramuscular injections respectively.
Explanation of Wassermann (W.) signs; Strongly positive, ++ (diagnostic). Positive, + (diagnostic). Feebly positive, ±. Negative, −.

Case Number.	Mother.								Baby at birth.				Baby after birth.					
	Approx. date of infection.	Treatment before admission.	Date of and condition on admission.	Wassermann on admission.	Treatment in hospital.	Doses of salv. before delivery.	Condition on delivery.	Wassermann on delivery.	Term.	Placenta.	Date of birth.	Condition.	Wassermann.	Weight.	Lesions.	Feeding.	Treatment.	Remarks.	Wassermann reaction.	Gain or loss in weight from date of birth.
1	July, 1917	None.	4.10.17. — G.c. poor, weak and anæmic (gonorrhœa). Primary sore on post. vagina. Pap. syphl. on limbs and trunk.	++	Iv. nov. Hg per os.	6	Sharp attack of jaundice 3 days before delivery.	—	Full.	—	26.11.17	Good.	—	7 lb. 9 oz.	None.	Breast first week, then bottle (A. & H.).	None.	Baby never had treatment for, or symptoms of, syphilis. Continuous progress. W. remained neg.	− 27.11.17 − 23.1.18 − 17.4.18	+ 5 lb. 1 oz. to 22.4.18
2	Sept., 1917	,,	13.12.17. — G.c. fair. Two sores on labia, mucous syphl. on throat.	++	,,	1	Good.	++	,,	No report.	18.12.17	,,	++	8 lb. 4 oz.	Erythematous rash all over body; bad snuffles.	Breast.	Im. galyl in glucose. Hg inunc.	Made continuous progress. Rash soon disappeared after treatment.	++ 18.12.17 − 28.2.18 − 21.8.18	+ 6 lb. 10 oz. to 12.10.18
3	April, 1917	Iv. salv. (3), Im. Hg (3).	14.12.17. — Very weak and anæmic. Mouth and throat much ulcerated. Severe salivation (gonorrhœa).	++	Iv. nov.	3	Weak and anæmic.	++	8 mths.	++	29.12.17	Feeble, face blue and œdematous.	++	6 lb. 2 oz.	Syphilitic eruption on buttocks.	,,	,,	Baby appeared unlikely to live; remarkably good recovery.	++ 29.12.17 − 6.3.18 − 10.6.18 − 18.8.18	+ 6 lb. 4 oz. to 18.8.18
4	April, 1917	None.	6.12.17. — G.c. good. Tubercular syphl. on face. Erythematous rash on neck, chest, and arms.	++	Iv. nov. Hg per os.	2	Good.	++	Full.	+	31.12.17	Good.	++	8 lb. 14 oz.	Severe rash on buttocks. Very bad snuffles.	Breast and bottle.	Im. Hg and galyl.	Lost weight during first week, then continuous progress.	++ 31.12.17 + 20.2.18 ++ 8.5.18 + 28.7.18 ++ 4.9.18 ++ 22.9.18 ++ 15.10.18	+ 10 lb. 6 oz. to 13.10.18
5	Oct., 1917	Iv. salv. (6).	11.1.18. — G.c. good. Papular eruption on legs and trunk.	±	Iv. nov. and galyl. Hg per os.	14	,,	++	,,	—	10.2.18	,,	—	6 lb. 8 oz.	Red rash on buttocks.	Breast.	Im. galyl. Hg inunc.	Negative W. blood test from birth.	− 10.2.18 − 25.3.18	+ 1 lb. to 18.3.18
6	Sept., 1917	,,	23.1.18. — G.c. good. Papular eruption on arms, trunk, and face.	++	Iv. nov. Hg per os.	6	,,	++	,,	+	11.2.18	Feeble and blue.	++	5 lb.	Eruption on buttocks.	,,	,,	Convulsions 20.2.18, lasted on and off 3 days. Im. inj. 22.2.18; continuous improvement. Six months in hospital; after leaving attendance irregular.	++ 13.2.18 + 27.3.18 + 15.10.18	+ 10 lb. 12 oz. to 13.10.18
7	Nov., 1917	None.	18.1.18. — G.c. good. Large hard sore on labia. Inguinal glands enlarged.	++	Iv. nov. and galyl. Hg per os.	4	,,	+	,,	+	14.2.18	Good, but had snuffles.	±	9 lb. 2 oz.	No rash appeared.	,,	,,	Good progress.	± 20.2.18 − 7.5.18	+ 2 lb. 8 oz. to 6.5.18
8	May, 1917	Iv. salv. (7).	21.2.18. — G.c. good. No eruption present.	++	Iv. nov. Hg per os.	8	,,	++	,,	++	27.2.18	Good.	++	7 lb.	Eruption on buttocks.	,,	,,	Weight and condition good. Did not come for treatment after leaving.	++ 28.2.18 ± 7.4.18	+ 5 lb. to 2.6.18
9	June, 1917	None.	27.2.18.— Indurated sore on left labium. Tubercular syphl. rash all over body.	++	,,	0	Weak and anæmic.	++	,,	++	2.3.18	,,	++	6 lb. 2 oz.	,,	Breast and bottle.	,,	Continuous progress.	++ 13.3.18 − 29.5.18	+ 3 lb. 4 oz. to 8.6.18
10	Oct., 1917	,,	1.12.17. — G.c. good. Erythematous eruption.	±	,,	7	Good.	±	,,	No report.	17.2.18	Feeble.	±	6 lb. 12 oz.	No eruption.	Breast.	Im. galyl.	Both mother and child left hospital, neg. W., returned to country. Report Sept. 1st, 1918, both well; child gaining weight.	± 20.2.18 − 24.4.18	+ 2 lb. 12 oz. to 29.4.18
11	June, 1917	Iv. salv. (3).	18.3.18. — G.c. fair. No eruption present.	++	Iv. galyl. Hg per os.	6	Good.	++	Full.	+	19.3.18	Good.	+	5 lb. 12 oz.	None.	Breast.	Im. galyl and Hg inunc.	Mother's feeding not suitable. At 3 months in hospital; after leaving attendance irregular.	+ 20.3.18 − 22.6.18	+ 3 lb. 8 oz. to 1.9.18

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
11	June, 1917	Iv. salv. (6).	18.3.18. — G.c. good. No eruption present.	++	Iv. galyl. Hg per os.	6	Good.	++	Full.	+	19.3.18	Good.	+	5 lb. 12 oz.	None.	Breast.	Im. galyl and Hg inunc.	Mother's feeding not suitable. At 3 months Allenburys Milk Food was given. Continuous improvement since. Mother had two intramuscular injections of salvarsan (?) before birth of child. She probably suffered from old syphilis.	+ 20.3.18 — 22.6.18	+ 3 lb. 8 oz. to 1.9.18
12	Sept., 1917	Im. salv. (2).	27.3.18.—Weakly condition. Bedsore on right gluteal region.	++	Iv. nov. Hg per os	2	Weakly, bedsore.	++	6½ mths.	+	27.3.18	Very weak and blue, dead in 6 hours.	—	3 lb. 8 oz.	...	...	...	—	...
13	Oct., 1917	Iv. galyl (4); Im. Hg (2).	6.2.18. — G.c. good. No eruption present.	++	,,	8	Good.	++	Full.	—	1.4.18	Good.	—	5 lb.	Rash on buttocks 3 days after birth. Developed eczema at 6 weeks.	Breast.	Im. galyl and Hg inunc.	Continuous improvement. Baby and mother left with negative W. blood test.	— 2.4.18 — 16.6.18	+ 3 lb. 10 oz. to 24.6.18
14	Sept., 1917	Im. (? kind) (1).	21.1 18.—Ditto.	++	Iv. nov. and galyl. Hg per os.	8	,,	++	,,	—	17.4.18	,,	++	7 lb. 4 oz.	Severe rash on buttocks. Offensive discharge from nose. Right inguinal hernia	,,	Im. galyl. Hg inunc. and grey oil.	Severe case. Child made good progress in weight, but remained positive W. blood test. Irregular in attendance.	++ 17.4.18 + 23.6.18 ++ 24.7.18 ++ 18.8.18	+ 8 lb. 10 oz. to 20.10.18
15	Uncertain.	None.	27.3.18.—Ditto.	++	Iv. nov. Hg per os.	3	,,	++	8th mth.	++	28.4.18	Feeble. Died at 36 days.	Insufficient blood to test.	5 lb. 8 oz.	Rash appeared on buttocks 10 days after birth.	Breast and bottle.	Im. galyl (2).	Severe case. Always took nourishment with difficulty. Had 2 injections only. Died 36 days after birth.	Amount of blood submitted for examination too small.	— 1 lb. 4 oz. to 2.6.18
16	Nov., 1917	,,	11.4.18. — G.c. poor. Tubercular syphl. on chin and forehead. Mucous patches on buccal surface.	++	,,	3	Feeble.	Not examined.	Full.	No report.	28.4.18	Born dead. Macerated.*	Not tested	...	...	...	...	Child probably dead before mother was treated. Child macerated when born.	...	...
17	Oct., 1917	Iv. and Im. galyl (4 each).	6.2.18.—G.c. good. Pap. syphl. eruptions over limbs and trunks.	++	Iv. nov. and galyl. Hg per os.	12	Good.	++	,,	,,	4.5.18	Good.	+	7 lb. 6 oz.	...	Breast.	Im. galyl. Hg inunc. and inj.	Child did well. Left the hospital after 5 weeks. Not seen since.	+ 5.5.18	+ 1 lb. 14 oz. to 10.6.18
18	Feb., 1918	None.	7.5.18.—G.c. fair. Syphl. present on labia and around anus.	++	Iv. galyl. Hg per os.	0	,,	Not examined.	,,	,,	13.5.18	Born dead. Macerated.*	Not tested	...	...	...	...	Stillborn; macerated. Mother had no treatment before delivery.	...	...
19	Uncertain.	Iv. nov. (2).	9.3.18. — G.c. good. No eruption present.	++	Iv. nov. Hg per os.	9	,,	,,	,,	,,	17.5.18	Born dead.†	,,	...	...	...	...	Born dead. Head very soft; macerated.	...	...
20	Jan., 1918	Im. salv. (2).	25.3.18. — G.c. good. Syphl. eruptions on chest and arms.	++	Iv. nov. and galyl. Hg per os.	8	,,	++	,,	,,	7.6.18	Unhealthy appearance; skin dry and loose.	—	7 lb. 4 oz.	Slight eruption on body within week after birth, T. 105, 2 days; rash continued 8 weeks.	Breast.	Im. galyl.	Steady progress. Negative W. blood test mother and baby. Both left hospital negative.	— 10.6.18 — 28.8.18	+ 6 lb. to 30.9.18
21	Oct., 1917	Iv. nov. (1).	2.5.18.—G.c. weak and poor. Rupial sores on head, buttock, and left leg.	++	Iv. galyl and Im. Hg.	4	,,	Not examined.	,,	Not examined.	8.6.18	Died shortly before birth.	...	...	...	...	...	Born dead.	...	...
22	Nov., 1917	None.	6.6.18.—Weak and thin; condylomata on vagina and anus.	++	Iv. galyl and Im. grey oil.	0	Weak, thin.	++	6½ mths.	,,	8.6.18	Inguinal hernia, very small; weak; skin brown; wizened.	++	3 lb. 4 oz.	Eruption on buttock at sixth week. Large inguinal hernia.	Bottle (A. & H.).	Im. galyl and grey oil.	Good progress made up to few days of death, when screaming fits took place and death occurred suddenly.	++ 10.6.18 + 28.8.18	+ 2 lb. 10 oz. to 26.8.18
23	Dec., 1917	Iv. salv. (6).	8.5.18.—G.c. good. No eruption present.	++	,,	9	Good.	++	Full.	,,	23.6.18	Good.	+	6 lb. 6 oz.	Eruption on buttocks when 2 weeks old.	Breast.	,,	Steady progress.	+ 23.6.18 — 18.8.18	+ 5 lb. 14 oz. to 13.10.18
24	Uncertain.	None.	10.7.18.—G.c. fair. No eruption.	++	,,	0	,,	Not examined.	6th mth.	,,	11.7.18	Born dead.‡	...	...	...	...	...	Macerated. No treatment before birth. Sent in as case of gonorrhœa.	...	...

Col. 18.—* Appeared to have died 1 month before birth. † Appeared to have died some time before birth. ‡ Baby appeared to have been dead month before delivery. *Col. 19.* Microscopical examination of liver, spleen, and lungs showed no spirochætes. Sections of heart and spleen nothing abnormal found. Liver, fatty degeneration; lungs, alveolar walls showed increase of fibrous tissue.

AN INVESTIGATION OF THE

ANTISCORBUTIC VALUE OF THE RAW JUICES OF ROOT VEGETABLES,

WITH A VIEW TO THEIR ADOPTION AS AN ADJUNCT TO THE DIETARY OF INFANTS.*

BY HARRIETTE CHICK AND MABEL RHODES.

(*From the Lister Institute, Director's Department.*)

Low Antiscorbutic Value of Fresh Milk.

IN the study of the distribution among foodstuffs of the antiscorbutic accessory factor made recently by a group of workers in this Institute, a considerable amount of attention has been devoted to the antiscurvy value of cow's milk. A preliminary report of these experiments was published several months ago in THE LANCET, and the results [1 2] have shown that cow's milk, even when fresh, is a substance poor in antiscurvy properties, and that a large daily ration, amounting practically to a complete milk diet, is necessary if scurvy is to be prevented by its agency alone.

This conclusion is in accord with the opinion previously expressed by certain clinicians on the basis of their observation of infant nutrition. Thus Barlow [3] in 1894 wrote the following words: "Looked at as antiscorbutic, probably much larger quantities of fresh uncooked meat and fresh milk are needed than fresh vegetables and fresh fruit juices." And at a later date Still [4] wrote: "The antiscorbutic power of fresh, unboiled milk is evidently slight."

In the case of young guinea-pigs it was found (*loc. cit.*) that a daily ration of 100–130 c.cm. of raw cow's milk was necessary to prevent occurrence of scurvy, and evidence was adduced to show that if the milk had been previously heated or dried a ration equivalent to the above would prove insufficient. These results have recently been confirmed by Miss R. E. Pilgrim, also working in this department, who has kindly permitted us to refer in this place to her experiments which will shortly be published elsewhere. It has been found extremely difficult to carry out the experiments with guinea-pigs. A full-cream milk diet is tolerated with difficulty by these animals, apparently owing to the high fat-content, and separated milk has proved easier of digestion. It has been exceptional to find young guinea-pigs which can consume as much as 100 to 150 c.cm. raw milk daily without digestive disturbances, even when the constipation occurring is mitigated by a daily dose of liquid paraffin. In the rare cases where this has been achieved good health and growth have been maintained for the period of the experiment—three months—and signs of scurvy have been absent or very slight. Upon a similar ration of dried milk this result has not been attained, even when the preparation is not more than 2–3 weeks old. Milk in this form is much better digested, and it is not unusual to find the equivalent of 100–130 c.cm. fresh milk consumed daily without difficulty. But in such cases the animals have suffered from severe scurvy sooner or later, and although life was prolonged the animals lost weight and sank into a miserable condition of chronic scurvy. There is little doubt that dried milk, even when freshly prepared, is inferior to raw fresh milk in respect of antiscorbutic properties.

Question of Extra Antiscorbutic for Infants.

In case of artificially fed infants the use of raw cow's milk is exceedingly rare at the present day. Boiling or pasteurisation of the milk has become necessary to obviate danger from bacterial disease, and for the same reason, as well as on grounds of convenience, the use of dried milk has increased largely in recent times. There is no doubt, however, that infants nourished upon boiled or dried cow's milk receive a smaller allowance of antiscorbutic material than would be provided by a diet of raw milk, and that the amount they obtain may dangerously approach the minimum required. To what extent this is a serious menace must depend upon the degree to which the content of antiscurvy vitamine in raw cow's milk is in excess of the infant's requirements and upon the antiscurvy value originally possessed by the particular sample of milk employed.

In any case the results of the experimental work are strongly in support of those medical authorities who recommend the inclusion of some extra antiscorbutic in the diet of infants nourished upon milk of which the original antiscorbutic value has been diminished by heating or drying.

Expert medical opinion is, however, divided upon this point. Many authorities, impressed with the comparative rarity of pronounced scurvy among infants brought up on boiled or dried milk, consider that the addition to that diet of any extra antiscorbutic is an unnecessary measure (see Coutts, 1918),[5] (Naish, 1914).[6] Others consider that the danger of incipient scurvy among artificially fed infants is not as negligible as is supposed (e.g., Hess and Fish, 1914)[7] (Miller, 1917)[8] and recommend that raw fruit juice or other antiscorbutic material should be added to the diet. Special attention was called to this point in an editorial article in THE LANCET of Sept. 22nd, 1917, and it is for the benefit of those who find difficulty, on account of cost or scarcity, in providing infants with an extra antiscorbutic in the form of fresh fruit juice that the following experiments as to other available sources were undertaken.

Experimental Work.

The experiments were made with young guinea-pigs, and the methods employed were the same as those described in the previous paper dealing with the antiscorbutic value of fruit juice in THE LANCET of Nov. 30th. The juices were prepared by rubbing the clean-cut surface of the raw vegetable upon an ordinary kitchen grater, placing the pulp in muslin and squeezing gently between the fingers, when the juice runs out readily. Unless otherwise stated, the juice was always prepared fresh every day; expressed raw vegetable juices undergo changes rapidly at room temperature, and were found to deteriorate in respect of antiscorbutic value when stored even at a low temperature in a refrigerator. In the accompanying table are set forth the results obtained

Table showing Antiscorbutic Value of Raw Vegetable and Fruit Juices.

Experiments with guinea-pigs. The diet consisted of oats and wheaten bran *ad libitum*, with 60 c.cm. daily of milk autoclaved at 120° C. for 1 hour; the antiscorbutic element in the diet was provided solely by the measured daily ration of vegetable or fruit juice.

Experiment No.	No. of animals.	Antiscorbutic material employed.	Daily ration.	Duration of experiment (days).	Result.	Degree of protection from scurvy.
Control	4	None.	—	34–40	Death from scurvy, 34th–40th day.	0
1	4	Raw swede juice.	2·5 c.cm	90–100	Animals enjoyed fair health; no symptoms of scurvy.	++
2	4	Raw carrot juice.	5 c.cm	34–56	Animals developed severe scurvy.	+
	4	,,	10 c.cm	34–76	,, ,,	+
	3	,,	20 c.cm	75–95	Fair health; signs of scurvy in 1 animal out of 3.	++
3	2	Raw beetroot juice.	20 c.cm	67–88	Definite scurvy in both cases.	+
4	1	Cooked potato (steamed at 100° C for 30 minutes).	17 g.	47	Slight protection.	+
	3		20 g.	73–92	Protection.	++
5	4	Raw cabbage leaves.	0·5 g.	66–90	Scurvy symptoms, but some degree of protection.	+
	5	,,	1·5 g.	90	Protection.	++
6	4	Fresh orange juice.	1·5 c.cm	50–91	Scurvy in 2 cases out of 4.	+
	2	,,	3 c.cm.	91–93	Good health, no scurvy.	++
7	2	Grapes, green Spanish.	10 g.	44–51	Severe scurvy.	0
	4	,,	20 g.	30–88	Severe scurvy in 3 cases out of 4.	+

0 No protection. + Slight protection. ++ Protection.

with the raw juices of swede, carrot, and beetroot, the immediate aim of the experiments being to determine the minimum amount which, when added to a diet of oats, bran, and autoclaved milk (heated to 120° C. for one hour to reduce its antiscorbutic value to a minimum), was adequate to prevent scurvy and to maintain the animal in health over the

* A companion paper entitled The Relative Content of Antiscorbutic Principle in Limes and Lemons together with Some New Facts and Some Old Observations Concerning the Value of "Lime Juice" in the Prevention of Scurvy, (A) *Experimental Inquiry*, by Harriette Chick, E. Margaret Hume, and Ruth F. Skelton, (B) *Historical Inquiry*, by Alice Henderson Smith, appeared in THE LANCET of Nov. 30th, 1918, p. 735.

period of the experiment. Results obtained with cooked potato (it is not possible to feed guinea-pigs on raw potatoes), fresh orange juice, fresh grapes, and fresh raw cabbage leaves, are added for purposes of comparison.

Comparative Antiscorbutic Value of Various Raw Vegetable Juices.

The juice of the fresh raw swede easily takes the first place in respect of antiscorbutic value. Protection from scurvy was attained with a daily ration of 2·5 c.cm. In case of raw carrot juice, severe scurvy developed in animals receiving daily rations of 5 c.cm. and 10 c.cm.; with a daily ration of 20 c.cm., protection from scurvy was secured and the general condition of the animals was about the same as of those receiving a daily ration of 2·5 c.cm. swede juice. In case of beetroot, the antiscorbutic value was less than that of carrot; animals receiving a daily ration of 20 c.cm. fresh raw juice showed only a small degree of protection, acute symptoms of scurvy supervened in every case, and death from scurvy occurred in several instances before the period of experiment, three months, had expired.

It is thus seen that raw swede juice provides a valuable and inexpensive source of antiscorbutic material. Its value is not markedly inferior to that of fresh orange juice, and it may be regarded as a satisfactory substitute; its value is 10 times that of raw carrot, and more than 10 times that of raw beetroot juice. It has recently been adopted in some infant welfare centres, and there does not appear to be any drawback to its use for the purpose of infant feeding.

Raw carrot has long been popular as an adjunct to the dietary of infants and there is traditional support for its worth. So keen an observer of his own day as Anthony Trollope, in "Barchester Towers," 1857, depicts the older generation in the person of Miss Thorne strongly advising the young mother to smear raw carrot juice and allow it to dry upon the baby's coral, in order to ensure for the infant a healthy set of permanent teeth in the future. "The receipt had been much in vogue in the young days of her (Miss Thorne's) grandmother," who "had the best teeth in the county and carried them to the grave with her at eighty." (Bohn's Library Ed., Bell and Sons, 1913, p. 234.)

It is interesting to observe the root vegetables investigated are widely separated in the vegetable kingdom; the swede belongs to the natural order *Cruciferæ*, the carrot to the *Umbelliferæ*, the beetroot to the *Chenopodiaceæ*, and the potato to the *Solanaceæ*. It is significant that the natural order *Cruciferæ* should also include the cabbage, most potently antiscorbutic of the vegetables investigated in the present inquiry, and the "scurvy grass" (*Cochlearia officinalis*) and the "cresses," so justly esteemed by the sailors suffering from scurvy in the old days.

Bachstrom (Observationes circa Scorbutum, 1734) relates the following remarkable story: "A sailor in the Greenland ships was so over-run and disabled with the scurvy, that his companions put him into a boat, and sent him on shore; leaving him there to perish, without the least expectation of a recovery. The poor wretch had quite lost the use of his limbs; he could only crawl about on the ground. This he found covered with a plant, which he, continually grasing, like a beast of the field, plucked up with his teeth. In a short time he was by this means perfectly recovered; and, upon his returning home, it was found to be the herb of scurvygrass." (Rendering given by Lind, 1757. A Treatise on the Scurvy, 2nd edit.). It is interesting to find that the old legend that the cruciform arrangement of the flower was an indication of especial virtues in the service of man thus receives scientific support at this comparatively late date.

Summary.

1. Cow's milk possesses distinct antiscurvy properties, but these are present in small degree in comparison with other antiscorbutic foodstuffs. Its value in this respect is further reduced after heating or drying. It is therefore advisable to provide some extra antiscorbutic material in the diet of infants nourished upon heated or dried cow's milk.

2. The antiscorbutic value of various materials that might suitably be included in an infant's diet has been experimentally determined by means of experiments with guinea-pigs. Among fresh fruit juices that of the orange is easily the most suitable, and possesses a value about ten times as great as that of fresh grapes. Of the raw vegetable juices examined, raw swede juice proved to be far the most potent, approximating in value to raw orange juice; the raw juice of carrots was found to be much inferior, and that of beet-roots failed to prevent scurvy in the largest dose (20 c.cm. daily) that could be administered to the experimental animals.

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HÆMORRHAGIC BRONCHITIS:

CASTELLANI'S BRONCHO-PULMONARY SPIROCHÆTOSIS.

BY H. VIOLLE.

(*From the Institut Pasteur, Paris.*)

IN view of the fact that cases of broncho-spirochætosis (Castellani's bronchitis) have recently been observed in Europe—I have first found the disease in France, having recorded a large number of cases of it in Toulon—a few notes on the subject will perhaps be found to be of some practical interest.

This affection and its etiological agent were first described by Castellani in Ceylon in 1905.[1] He called the malady broncho-spirochætosis and the germ *Spirochæta bronchialis*. Castellani's observations were confirmed in various parts of the tropics, by Branch in the West Indies in 1907, by Jackson in the Philippine Islands in 1908, by Waters in 1908, who recorded a number of cases in India, by Phalen, Kilborne and Chamberlain, Taylor, Chalmers and O'Farrell, Harper, and others in various other tropical countries.

In Europe a few cases were observed in 1915 by Galli Valerio in Switzerland, one case by Lurie in Serbia, and a few by Castellani himself in the Balearic-Adriatic zone. Very little attention, however, was paid in Europe to the disease until it was found in France by myself in 1916. At Toulon, where I have been carrying out the investigation, a comparatively large number of cases has occurred among the native troops coming from the Far East, as well as in Europeans who had never been to the colonies. A special ward in the St. Mandrier Hospital had to be set aside for cases of this disease, and I was placed in charge of it.

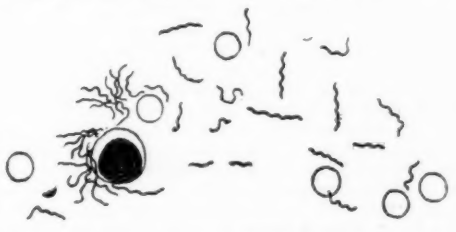
Symptomatology.—Mode of Infection.

The symptomatology I have observed in my patients is the following:—

The patient has generally been sent to hospital with the diagnosis of tuberculosis or suspected tuberculosis, and one can easily understand why this diagnosis has been suggested, as in very numerous cases the patient is spitting up blood. The bloody expectoration is often of a peculiar vividly pink colour, somewhat different from what one usually sees in hæmoptysis of tubercular origin.

The cough is frequent, sometimes more severe during the night. The physical examination of the chest in some cases reveals very little or nothing; in other cases there are signs of simple bronchitis with or no emphysema; in others there are signs of consolidation.

The general condition of the patient is often fairly good, even very good, and very often there is no fever.



The blood at times shows a slight degree of anæmia, due to the repeated attacks of hæmoptysis. The number of leucocytes is normal, and so is generally the leucocytic formula. (See figure.)

The microscopic examination of the sputum reveals presence of *S. bronchialis* in enormous numbers; the preparations are teeming with it.

[1] THE LANCET, 1906, i., 1384.

To put in evidence these spirochætes one may use the ultra-microscopic for fresh preparations, or one may stain with Romanowsky and similar methods. The best method is the silver nitrate one of Fontana-Tribondeau.

The *S. bronchialis* Castellani is an organism extremely variable in length, shape, and number of spirals; length 4 to 30 microns, mostly 7-14. According to Fantham these medium forms are derived from the long ones by transverse division.

Certain individual spirochætes have very few spirals, two or three, others have a large number with spirals very close; numerous intermediate types can be found. The spirochæte has been carefully investigated from a morphological standpoint by Fantham. It has not yet been cultivated. I have not been able to reproduce the disease in rabbits, guinea-pigs, and pigeons, but Chalmers and O'Farrell have reproduced the disease in a monkey by intratracheal injection.

The disease, according to certain authorities, is very contagious, the contagion taking place, according to Fantham, from infected persons to healthy individuals by means of the so-called "coccoid bodies" derived from the spirochætes. Without denying this mode of contagion, I am inclined to believe that *S. bronchialis* may be present in very small numbers in many individuals, similar to what is the case, for instance, with the pneumococcus, and that any cause lowering the vitality of the tissues, such as a chill, may cause *S. bronchialis* to multiply and to invade the whole of the broncho-pulmonary system.

As regards the possibility of spirochætic infections spreading from the mouth to the bronchi, I must say that, except in one single case, none of my patients had any mouth lesions of spirochætic origin, and their teeth and gums were in good condition.

Diagnosis and Treatment.

Diagnosis.—This is based on finding *S. bronchialis* in large numbers in the expectoration, while there is absence of the tubercle bacillus, of hyphomycetes, and of ova of *Paragonimus westermanii*, Kerbert, which at times may give rise to bloody expectoration. Clinically, if a patient presents bloody expectoration of a vivid pink colour and is in good health, the practitioner should be on the look-out for Castellani's broncho-spirochætosis. Cases of mixed infection of broncho-spirochætosis and tuberculosis occasionally occur; similarly, cases of bronchial spirochætosis plus broncho-moniliasis have been recorded.

Prognosis.—The prognosis, as a rule, is favourable; in many cases all the symptoms disappear within three to four weeks from onset. Relapses, however, seem to be frequent, and chronic forms occur with expectoration, which is at times muco-purulent, greenish, and at times mixed with blood.

Treatment.—In a large number of cases active therapeutic measures are not called for, rest, nourishing diet, and country air being sufficient to bring about a cure. Ergotine and tr. iod., a few drops well diluted, should be given if the attacks of hæmoptysis are severe, and if there is not much secretion and the cough is very painful opium preparations may be administered.

As regards specific treatment arsenic and tartar emetic have been used by Castellani and others, while certain authorities recommend arsenobenzol. Satisfactory results from such a line of treatment will at times be obtained in chronic cases.

In conclusion, it seems to me that attention should be more generally paid to the presence of broncho-spirochætosis in European countries. My researches have shown, for instance, that this malady is met with in France.

In cases of patients spitting up blood a correct diagnosis is of extreme importance; it will relieve the patient's feelings to know that he is not suffering from the dreaded tuberculosis of the lungs, but from a disease which is much less serious and generally terminates in recovery. A correct diagnosis is important also from a medico-legal point of view, because tuberculosis entails permanent discharge from the Army with a pension, while bronchial spirochætosis merely means in most cases giving the patient a few weeks' rest, after which he will be able to resume his military duties.

AT the instance of the National Council of Trained Nurses, Mrs. Bedford Fenwick will stand for election to Parliament on the National Health ticket when a suitable constituency can be found.

LOCAL ANÆSTHESIA AND TWILIGHT SLEEP IN THE SURGERY OF EXOPHTHALMIC GOITRE.

BY S. H. ROUQUETTE, M.CH. CAMB., F.R.C.S. ENG.,
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DURING recent years an ever-increasing number of the subjects of Graves's disease have been submitted to operation with a measure of success which would have seemed scarcely credible in days gone by before the factors of safety were as well understood as they are now. That surgery can produce an immediate cure in some cases and marked improvement in others there can be no doubt, but time alone can show whether the cure is permanent.

Limitations of General Anæsthesia.

It is generally recognised that the only surgical measure likely to prove of permanent value consists in ablation of the greater part of the gland, the exact amount depending on the age of the patient, the severity of the disease, and on various other factors. As the determination of this amount is exceedingly difficult there are many cases in which a second operation is required still further to reduce the size of the gland, but with the growth of experience secondary operations are likely to become less frequent in the future.

The very great diminution in the mortality of the operation is due partly to a better appreciation of the time at which operation should be undertaken, but far more to a realisation of the danger of anæsthetics, culminating in the absolute prohibition of chloroform. Ether is still used, and in highly skilled hands is a safe anæsthetic for very slight or early cases, as well as for those which, though originally severe, have been markedly improved by a previous operation; but I am inclined to think it is not sufficiently safe for a primary operation in a severe case.

Of the various methods of administration the rectal is achieving popularity, and has found a warm advocate in Mr. A. J. Walton and others who speak with authority. I have not made an extensive trial of this method, but such experience as I have had has only served to strengthen my preference for local anæsthesia. On several occasions Dr. Z. Mennell has given ether for me by the intratracheal method with great success, but while I regard this as the most suitable for large, simple goitres with respiratory embarrassment, it is limited by the conditions formulated above.

Local Anæsthesia.

Foremost among pioneers in this branch of surgery, Dr. T. P. Dunhill, of Melbourne, will ever be remembered as the champion of local anæsthesia; readers of THE LANCET are familiar with his teaching and aware of the results he has obtained. No one who read his paper of Dec. 15th, 1917, can fail to have been impressed by the extraordinary recovery of the most desperate cases under his care, cases which could only have terminated fatally in a very short time but for his intervention. Dr. Dunhill himself attributes his successes to the use of local anæsthesia, and, indeed, if one may judge from the photographs in his paper, it would seem doubtful whether any anæsthetist could have been found willing to deal with patients in so grave a condition.

Surgeons in this country have tried local anæsthesia, but do not seem addicted to its use. It certainly possesses two disadvantages: in the first place, the mind suffers what the body does not feel; and, in the second, the personality of the patient is apt to intrude and embarrass the surgeon, with the result that the operation may degenerate into a trying ordeal for both. In such circumstances the surgeon is hindered in his work and may be unable to remove an adequate proportion of the gland. Local anæsthesia cannot abolish the pain arising from certain of the manipulations; but while some patients bravely resign themselves and tolerate discomfort without flinching, others are physically incapable of exercising the necessary self-control. When it is remembered that the patients are sufferers from Graves's disease, it will be realised that local anæsthesia must often leave much to be desired.

It was with a view to improving the technique and alleviating the distress of the patient during the operation that I began to use preliminary injections of morphine and later of hyoscine as well. I found that the operation could

be more quickly performed and that the patient frequently felt nothing at all or slept peacefully at intervals throughout the operation. The drugs produced no ill-effects and sometimes enabled the patient to sleep for the remainder of the day.

Technique.

1. *Induction of amnesia.*—For each individual it is necessary to estimate what dose of the drugs will be required and how long it will take to produce the desired effect. Most frequently I give hyoscine 1/100 gr. and morphine 1/6 gr. an hour and a half before the operation and morphine 1/4 gr. half an hour later. The patients' ears are plugged with wool and the room is darkened at the time of the first injection.

2. *Syringe and needles.*—I use a 20 c.cm. Record syringe, with Barker's steel spinal needles and hypodermic needles.

3. *The anæsthetic solution.*—Dr. Dunhill uses 200 c.cm. of saline containing 0·1 per cent. adrenalin 20 m and novocaine 6 gr. Hoffmann and Kochmann [1] recommend—

Novocaine	0·2 g.
Sol. pot. sulph. (2 per cent.)	40 g.
Sol. sod. chlor. (0·9 per cent.)	ad 200 g.
Sol. suprarenin hydrochlor. (0·1 per cent.) ...	24 m.

The addition of potassium sulphate to a novocaine solution is said to aid its effect, and magnesium sulphate is sometimes used with a similar object. Whatever solution is employed should be freshly prepared, but need not be warmed before use. Of the two chief ingredients the adrenalin is the more important; it diminishes oozing from the subcutaneous tissues and prevents too rapid absorption of the fluid. I doubt whether the novocaine is really of any value at all at so low a concentration, as I have been equally successful with normal saline alone except for a slight increase in capillary hæmorrhage. I think the anæsthesia is produced principally by distension of the tissues, since the large volume of the fluid seems to be the most important factor.

4. *The injection.*—The injection can be made through one median puncture, and as the introduction of a large spinal needle is painful, it is well to begin by infiltrating the puncture area with a fine hypodermic needle. With very nervous patients I sometimes introduce a further refinement by laying a pad soaked in 1 : 20 carbolic on the neck beforehand to diminish sensibility to the prick of the needle. All the tissues superficial and lateral to the gland can be infiltrated, but the fluid does not penetrate the capsule of the gland and seldom reaches the trachea; posteriorly the structures never show any evidence of infiltration. The injection is begun half an hour before the operation while the patient is still in bed; he is then conveyed to the operation theatre, and by this time is usually drowsy and takes no interest in subsequent proceedings. It is not necessary to inject any more of the novocaine solution during the course of the operation.

5. *The operation.*—During the operation the theatre is kept as quiet as possible and no talking is allowed; the patient may sleep the whole time, moan subconsciously, or rouse himself at intervals to ask questions. Occasionally the limbs move slightly, but whatever impressions the brain may receive the mind retains no recollection of them. The loss of all idea of time is a noticeable feature, and when asked how long he supposed the operation took the patient will usually under-estimate the time by half an hour or more; he does not afterwards feel that he has passed through any painful ordeal, and in most cases the pulse does not rise appreciably during the operation. I have not always succeeded in producing complete immunity from discomfort, but with increased experience imperfect anæsthesia has become exceptional.

6. *Post-operative course.*—I always drain the wound and close the incision with clips; the drainage-tubes and some of the clips are removed two days after the operation and, if the wound then shows no tendency to gape, the remaining clips are removed on the following day. In the majority of cases the post-operative course is extraordinarily free from discomfort of any sort, the patient altogether escaping the physical and mental distress so apt to follow in the wake of general anæsthesia. The narcotics produce no ill-effects unless given in excessive doses when headache and thirst may be complained of; headaches are readily alleviated by aspirin and thirst by administration of fluids in any form most palatable to the patient.

[1] Deutsch. med. Woch., 1912, No. 48.

The temperature is always raised for a few days, but usually rises no higher than 101° F.; in some cases and for no apparent reason it remains irregular for two or three weeks, and then slowly falls to normal, provided that absolute rest is enforced. The pulse reaches its highest point on the second day, and thereafter falls steadily during the next ten days to a level below that recorded before the operation. I have not found that local anæsthesia increases the likelihood of suppuration, as the wound nearly always runs an aseptic course and heals by first intention, but the formation of a hæmatoma is not unlikely to occur if more than 0·1 per cent. adrenalin 20 m has been used in the anæsthetic solution. Occasionally alarming symptoms arise and call for prompt treatment. Great acceleration, and particularly irregularity, of the pulse indicate fatigue, when an effort should be made to induce repose of body and of mind; in these circumstances a dose of paraldehyde in rectal saline will often bring about a marked improvement. If, in addition, the patient is dyspnœic, cyanosed, and restless the condition is more serious; the wound should first be examined to make sure that drainage is not obstructed, and then strophanthin should be injected intravenously; for this purpose I keep in readiness a freshly prepared solution containing strophanthin gr. 1/250 and adrenalin (0·1 per cent.) 1 m, in 5 m, the effect of which is instantaneous. Inhalation of oxygen is sometimes useful in relieving cyanosis.

Soreness of the throat and difficulty in swallowing are minor complaints and are sometimes distressing; they can be relieved by the use of suitable lozenges and by giving small pieces of ice to suck. Vomiting hardly ever occurs as a result of the operation and is never serious by itself, though attacks of vomiting may have been one of the manifestations of the disease. The presence or absence of various complications depends largely on the severity of the disease and on the area of the cut surface of the gland from which secretions may be absorbed into the circulation.

Conclusions.

The combination of hyoscine-morphine amnesia and local infiltration is an absolutely safe method of producing anæsthesia, possessing neither disadvantages nor contra-indications; it is preferable to local anæsthesia alone, and more rational.

THE TREATMENT OF EXTENSIVE SEPTIC WOUNDS.

BY H. GARDINER, M.S. LOND., F.R.C.S. ENG.,

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IT seems that the chief use of gauze dressing is that it protects the wound from secondary infection from outside, and that if a method of treating wounds can be devised in which the wound is protected from outside infection, and at the same time the objectionable results of the use of gauze dressings are eliminated or diminished, an advance in the right direction will have been made. With this object I have, for the last six months, been treating septic wounds with much discharge with no permanently applied dressing. The method adopted is as follows.

Description of the Method.

The ordinary incisions for opening up recesses in pockets are made as soon as the patient has recovered from the result of transfer to the hospital. Incisions and openings so made are performed with the idea of obtaining the maximum effect of gravity in the subsequent treatment. The wound is then packed with gauze and bandaged in the usual way—the sole object in this being to assist in stopping oozing of blood. All dressings are removed 48 hours later. The wound is then syringed with some mild antiseptic—e.g., boric or weak eusol lotion. A guard made from perforated zinc, cut in an appropriate size and bent in the form of a cradle, is placed over the limb or part wounded and covered by a sterilised towel. If possible, an ordinary cradle is placed over the whole. Any discharge from the wound is allowed to run out from the wound, and is taken up by a sterile pad of wool or sphagnum moss so placed as not to touch the wound. At intervals varying with the amount of discharge, on an average twice a day, or in some cases more frequently, the nurse lifts the towel and zinc guard, syringes or swabs the wound, and changes the pad. The guard and towel are then replaced. This treatment is continued until all pockets and recesses have been closed by granulation, the granulating surface is

smooth, and the discharge has practically ceased. The wound is then dressed in the ordinary way with gauze and wool.

A fair number of cases (40 or 50) have been treated in this way, and in none of them have any bad effects been observed as the result of leaving the wounds open. In some of these the wounds were so extensive, and the discharge so foul and profuse, that amputation on admission was seriously considered. Wounds infected with a great variety of organisms—all those commonly met with in such wounds—have been treated in this way with success.

Occasionally it has been necessary to open pockets that have formed after the treatment has been started, but these were all cases in which it had been impossible to obtain a proper flow of discharge by gravity. In these cases a small wick of gauze is laid wherever a recess is found and left hanging over the edge of the wound to assist in the drainage. These wicks are never so large as to occupy more than a quarter of the opening of any recess.

Its Difficulties and Advantages.

The difficulties experienced in this method of treatment have been threefold: 1. Difficulty in some cases in arranging the wound by operation for opening pockets or by altering the position of the patient so as to obtain the greatest effect of gravity. This difficulty is to some extent overcome by the judicious use of very small gauze wicks and by the more frequent cleansing of the wound by syringing. 2. The difficulty in continuing the treatment at night when the patient is asleep and restless, as any considerable movement of the wounded part may disturb the covering and bring the wound in contact with unsterilised material. This is overcome in some cases by placing the limb in a splint. In others it is necessary to place an ordinary dressing and bandage on at night, but the number of cases in which this has had to be done is small. 3. Some parts of the body are difficult to keep covered in the manner described—e.g., the neck and side of the trunk—and in some parts—e.g., the face and head—it is impossible. In the case of the neck and side of the trunk it is possible to build up a rampart of sphagnum moss round the wound and to keep these in place with a towel or bandage in the usual way. The principles of perfectly free and open drainage is thus not interfered with.

The advantages following the employment of the method have been found to be: 1. Perfectly free drainage 2. Absence of the tendency to pocket, provided the wound is exposed and so arranged as to allow gravity its maximum effect. 3. Absolute painlessness of dressing even the most extensive wounds—an advantage of prime importance for the general condition of the patients. 4. The dressings can be performed with a complete absence of any manipulation of the wounded part, as no bandages have to be removed or applied. 5. A great economy in dressings is effected.

With regard to the disadvantages mentioned above, the following comments are apposite: 1. All the advantages of the absorbent power of gauze in assisting drainage contrary to gravity can be obtained by the use of small wicks, with none of the disadvantages of the closed dressing. 2. Wounds (so severe as to need any special care in treatment) of "difficult parts," such as the head and neck, are only occasionally met with in general hospitals in England. A circular rampart of absorbent material, covered and kept in place by a sterile bandage or towel, has been effective in the small number of these cases that have come under my care.

The first effects of this method of treatment are somewhat disturbing to the mind of a surgeon accustomed only to the appearance of wounds treated in the ordinary way. The edges of the wound and parts of the surface over which the discharge is not flowing tend to become hardened and small scabs develop. These should be removed as soon as they have formed, and can usually be prevented from forming altogether by careful cleansing and swabbing of the wound. Should there be any recesses in the wound these must receive particular attention at the dressing, as there is a tendency for the discharge to coagulate and block up small fissures. Provided the dressing is done with ordinary care this can in all cases be prevented. In cases where deep pockets are present that cannot be effectively opened a rubber drainage-tube is employed to prevent premature closure. In cases where an ordinary closed dressing has to be applied at night a wet one is always used—usually a hot fomentation. Any tendency towards drying of the wound is thus prevented, even when it has been allowed temporarily to occur. The hypothetical objection that the dried secretion may block the recesses of the wound has not been proved to be valid by experience.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CÆSAREAN SECTION THREE TIMES ON THE SAME PATIENT.

BY WALTER G. SPENCER, M.S. LOND., F.R.C.S. ENG.,
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THE following case shows that Cæsarean section, sepsis being excluded, may be repeated without any impediment from scars or adhesions.

Notes of Case.

In April, 1907, the patient, then aged 29, in her first pregnancy, had reached term when labour pains began. A medical practitioner, recognising that natural delivery was impossible, sent her forthwith into hospital. On admission it was noted that she was a spare woman of medium height, who presented no external deformity. The pelvis resembled that of a boy. Measurements made subsequently, and repeated later, were as follows: True conjugate, 2¼ in.; transverse diameter, also outlet between ischial tuberosities, not much wider than conjugate; external conjugate, 7¾ in.; between anterior superior spines, 9 in.; between crests of ilia, 10¾ in. The uterus was high up; the cervix could scarcely be touched with the finger; the unruptured membranes were bulging through the os. No sepsis had been started. Cæsarean section was done within 24 hours of the first labour pain.

Mother with her three children after third Cæsarean section.

The second operation was performed in October, 1910, on what was reckoned to be the 280th day of pregnancy; labour had not commenced but the breasts had become full.

Cæsarean section for the third time was carried out in July, 1918, with the patient in the same state as at the second operation.

Account of Operations.

There was no essential difference between the three operations. The incision through the abdominal wall was a median one; at the second and third operations a fine strip of scar was excised, there was then no sign of hernial protrusion, nor of adhesion to the peritoneal aspect.

The incision into the uterus was also through the middle line, without encroaching upon the cervix or uppermost end of the fundus. At the second and third operations the abdominal wound was well retracted, but no one present could see any sign of scar in the uterine wall, or of adhesion to the uterus.

On opening the uterus the child, followed by the placenta and membranes, was removed with one sweep of the hand. At

the second and third operations the placenta was found attached, as at the first, above and behind, and it and the membranes peeled off just as readily. The cord was not tied off for two or three minutes, then the child was put to the breast as soon as it had been washed; it was afterwards suckled without any other food being given. All three babies throve without a break.

The uterus began to contract immediately it was squeezed; the contraction was just as quick on the second and third occasions, as at the first when labour had already commenced. After a long strip of gauze had been drawn down and out through the vagina, the uterine wound was sewn up by a double row of interrupted kangaroo-tendon sutures. When this had been completed the uterus had become quite hard, and no blood could be squeezed out between the sutures. Then the abdominal wall was as carefully sutured with three rows of interrupted kangaroo-tendon sutures and a continuous fine silk suture through the skin. By far the longer part of each operation was occupied by the insertion of the sutures.

As for the patient during and after the three operations, it was the same as if she had been operated upon for an uncomplicated ovarian cyst. The lochia and the involution of the uterus offered no differences from a normal labour.

The photograph shows the mother with her three daughters after recovery from the third Cæsarean section. She then had a perfectly sound abdominal scar.

Portland-place, W.

A CASE OF GUMMA OF THE ENTIRE LEFT LUNG.

BY ROBERT HALL, JUN., M.B., B.CH., B.A.O. BELF.,
CAPTAIN, R.A.F.; AND LATELY SURGEON PROBATIONER, R.N.V.R.

THE following case may be of interest on account of the rarity of the condition:—

Patient, aged 40; family history good, no malignancy, married, and has three children living. He states that they are healthy; a fourth child died of "convulsions" at the age of 10 months. He is, and was, a moderate drinker and smoker. He is a labourer in a flour-mill and attributed his present condition to an accident in July, 1914. Several bags of flour fell on him and he was away from work for a month; he felt breathless and easily tired upon slight exertion, and had a severe pain in his back, left shoulder, and left arm. He returned to light work, but frequently had to rest. His appetite became impaired and he had a cough. The dyspnœa gradually became more marked, and after several periods of alternate work and "lying up" he entered hospital in June, 1918, when his condition was as follows:—

Patient complained of constant pain in his left side, left shoulder and back, also shortness of breath and a cough with tough spit, which was very difficult to get up. (It was not blood-stained or prune-coloured.) Very little exertion exhausted him, and he had headaches. His appetite was poor, but he had not lost weight to any considerable extent during the past year.

Patient was emaciated and pale, and did not speak distinctly. His teeth were very bad, and there were "snail track" ulcers to the right of his uvula. The abdomen and bowels were normal. The heart was hypertrophied downwards to the sixth rib, and outwards to the left 2½ inches beyond the nipple line. The impulse was of a heaving type, and a diastolic murmur was heard in the aortic area with maximum intensity at Erb's point, and conducted to the apex. The electrocardiograph showed predominance of the left ventricle. The pulse was 108 and "Corrigan's"; the condition of the artery walls was fair. Epigastric and jugular pulsation was present. Blood pressure: Right arm, systolic 120, diastolic 76; left arm, systolic 106, diastolic 68 mm. Hg. Respirations were shallow and 40 per minute. The movement of the left side of chest was impaired. Vocal fremitus was absent over the entire left lung, "stony" dullness over whole left lung, and vocal resonance absent except over a small area extending from the sterno-clavicular junction to a distance of about 2½ inches in radius. In this area there was amphoric resonance. The nervous and genito-urinary systems were normal and pyrexia was not present.

The patient denies having had syphilis, but Wassermann reaction was markedly positive. He was put on anti-syphilitic treatment, and under large doses of potassium iodide his cough and breathlessness have been very much relieved. The possibility of actinomycosis was considered and ruled out.

In conclusion, I wish to express my thanks to my father, Dr. R. Hall, for permission to examine and take the history of this case.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Reconstruction in Medical Education and Practice.

AT the ordinary meeting of the society held on Dec. 2nd, under the presidency of Dr. ARTHUR F. VOELCKER,

Mr. H. J. WARING (Col. R.A.M.C.) introduced a discussion on Reconstruction in Medical Education and Practice. It was, he said, impossible to divorce medical education from medical practice. The objects to be aimed at in medical reconstruction could be put in the following brief form: (1) to improve the education of students so as to make them more efficient for medical practice; (2) to improve the conditions under which medical practice is carried on; (3) to obtain the largest output of good work from medical men with the least expenditure of energy; (4) so to arrange the conditions of medical practice that the practitioner could have more time for recreation and more opportunities for bringing his medical knowledge up to date. He was assuming that it was not the intention of the State to create a whole-time medical service; the draft Bill did not foreshadow that.

The Medical Curriculum.

Five years was too short a period of study if clinical subjects were to be adequately taught. When, in 1892, the medical curriculum was lengthened to five years it was the intention that the added year should be devoted to clinical work, but owing to some deficiencies in organisation and to some matters concerning the organisation of the schools the preliminary subjects still occupied the whole period. Two suggestions had been made to remedy that. The first was that the chemistry, physics, and biology course should be completed before the commencement of medical study; this could be done by rearranging the work at the public and secondary schools in the case of students who did not go to the older universities. In many public schools the courses of instruction were so arranged that the chemistry, physics, and biology taught sufficed for the first examination; the same was also true, to a lesser extent, of many secondary schools. If the need were made very clear the public schools would also fall into line. In Scandinavia the period of study had been extended to six years, and he was told by medical men there that it was satisfactory; but he thought the better solution of the difficulty was the completion of the chemistry, physics, and biology before entering the five-year course of medicine and surgery.

Medical Education.

He felt that anatomy should be taught by professed anatomists, but taught less from the morphological than from the surgical side. These professors should be shown the need for emphasising the latter aspect—i.e., in the use of the living model and the normal X ray appearances, especially in regard to the bones. It was also absolutely necessary to teach the lymphatic system of the body more thoroughly. There should be a schedule of anatomy, for some parts need not be taught in detail, such as learning every individual muscle of the back. Owing to the paucity of material, he thought it necessary that there should be a new Anatomy Act; and if that were the general view there should be a collective representation made, for the present was an opportune time. Applied anatomy would have a fitting place during the clinical period, and should be taught by a surgeon. Physiology had become such an enormous subject that its professors showed a tendency to teach it as a science apart, rather than human physiology as a factor in general medicine. The chemist should be attached to this department, and the time had now arrived for the general inclusion of a biochemist. Pharmacology should be taken in the intermediate period, in close association with physiology. He thought that the essentials of bacteriology should be taught before the student commenced his actual medical work; it could be done in a compulsory three months' elementary pathology and bacteriology course.

With regard to materia medica the student had an enormous amount to learn, as the Pharmacopœia was now very extensive. A number of physicians and surgeons could probably cut it down to one-half with advantage to the

medical student and without material disadvantage to medical practice. General medicine and surgery were well taught in all the medical schools. He had a suggestion to make, however, with regard to midwifery and gynæcology—namely, that separate teachers should be appointed for these two subjects. There had been a great tendency for the teaching of midwifery to be left to the younger man; when the teacher was older he inclined to the gynæcological or surgical side. There were now many special departments, and as medical education was at present constituted it was almost impossible for the ordinary student to go through all of them satisfactorily. The medical student should go through a special course in each one of these. Owing to the difficulties in providing material the majority of students never went through any satisfactory course in operative surgery; it was usually only those who went in for the higher degrees who did so. Concerning the equipment of the medical student for practice, he thought the teaching of mechano-therapeutics and massage was not satisfactory in any of the schools, yet many conditions could be only treated satisfactorily in that way. Consequently, that branch of practice went, by default, to quacks. In the States the gentleman who called himself an osteopath got a big practice. Mechano-massage should not be taught alone to the medical student; nurses should be included. He would have much more done in the teaching of preventive medicine; he did not mean public health work and sanitary science, but the prevention of the occurrence of disease. That was very much wanted in English medical schools. There should also be included in the curriculum a definite course on medical ethics. At present, to a great extent, the student had to learn it after he had entered on practice. It need not be an extensive course. Nurses should be regarded as part of the medical profession, but in the past they had not been catered for as they should have been. He did not think nurses were given sufficient opportunities for doing surgical dressing. It was also a question whether surgical sisters and those in charge of operation theatres should not have practical instruction in administering anæsthetics. In military practice during recent years they had done very useful work of this kind.

Post-graduate Study: Medical Schools: Conditions of Medical Practice.

With regard to post-graduate schools he thought that in London the profession had made a mistake. In most of the schools an attempt was made to teach graduates and undergraduates together. It would attract many to the wealth of clinical material in London if graduates could have courses distinct from those for undergraduates. At the present time most of the medical schools in London were associations of private individuals for the instruction of students, and their emoluments were derived from the fees paid by the students. He did not think university education could be satisfactorily carried out on the fees paid by the student. Recently the Board of Education had given grants to some schools, and those had during recent years enabled some of them to survive. He did not think the method of giving grants was a good solution. Every medical school should be a corporate body; should be controlled by a governing body, both professional and lay. The large hospitals should, he thought, have an arrangement by which the members of the Navy, Army, and Air Services could have definite study courses in the schools. It seemed a pity that as men became seniors in these services they were made administrators, to the loss of the scientific side.

He also made a plea for team work in ordinary practice; practices should not be a one-man concern, but should consist of men with varied qualifications, so as to ensure thorough investigation for every patient. London was worse provided than any other place with private institutions for medical and surgical treatment. Many of the "surgical homes" had been chosen because the property was cheap, and in some the sanitary and other arrangements were very unsatisfactory. Some were a definite disgrace to the profession. Under the new Ministry of Health he would have it as a condition that every one of these houses should be passed as in a fit sanitary condition before it was allowed to be so used. An interesting question was as to how far it was desirable for a nursing home to belong to a medical man. He thought such homes ought to be legitimately possible provided they were certified by some public body as suitable.

Much had recently been heard about making an A 1 community out of C 3 material. As things were at present constituted he did not think that was possible. The criminal, the congenital idiot, the feeble-minded, and such people were allowed to go free so long as they were not dangerous to the community. Two feeble-minded folk married, or did not marry, and additions to the C 3 ranks ensued. That could probably only be effectively stopped by means of sterilisation. Lastly, how far was the profession justified in prolonging the dreary lives of people suffering from incurable and crippling conditions, such as ectopic vesicæ and imperforate anus!

Discussion.

Sir JOHN BROADBENT dealt in detail with most of the points raised by the opener. He thought the teaching of biology was the difficulty in Mr. Waring's plan for the preliminary subjects. He agreed that the teaching of physiology could be overdone as a factor in medical study. If there was to be really good post-graduate teaching, such as would attract those from other countries, there must be professors or, at least, teachers who could devote a good deal of time to the work, and there should be a central place for such instruction. Cases could be lent to illustrate the teaching, and periodic visits to wards of hospitals could be arranged to see the bed cases. He agreed that the fees for teaching at medical schools were ludicrously inadequate, and it was impossible to run a school on the fees paid by the students. One of the great drawbacks of the London schools was the eternal competition, in which fees played a part, for many intending students carefully inquired as to where the fees were lowest. Much more coöperation between the various schools was needed. Perhaps under the Ministry of Health or of Education grants would be increased. He thought the present military hospitals could be converted into civilian nursing homes, but he did not think medical men should run them.

Dr. FORTESCUE FOX spoke of the want of greater recognition of mechano-therapeutics. Shortly before the outbreak of war a definite and strongly backed proposal was made to the Senate of the University of London to establish a chair in Hydrology; certainly it was a subject which should be systematically taught.

Mr. H. W. CARSON emphasised the need in London of properly organised post-graduate teaching. There were many institutions here, apart from the large teaching hospitals, which carried on a very good work, but in them it was very difficult to organise a scheme by which the material could be utilised. Many felt that after the post-war settlement England would be the great centre for post-graduate teaching in the Old World. The profession in this country ought to set to work to render it so; he was convinced it could be done. He agreed as to the need for more tuition to nurses, and that had been fostered in the institution with which he was connected. He did not think nurses should administer anæsthetics, because the responsibility in connexion with that, in the present state of the law, devolved on the operator. The medical work in the Army and Navy ought, in his opinion, to be remodelled. It was ridiculous that when a medical man in those services arrived at seniority he automatically ceased to do his special work. He agreed that team-work produced very good results if properly done.

Dr. SEYMOUR TAYLOR thought that at the end of the last century clinical medicine was very indifferently taught as a whole, though there were isolated and brilliant exceptions. North of the Tweed very much more use was made than here of every bit of clinical material. Some men in London, though they had not the faculty for imparting knowledge, held on to their posts for many years, their entry on such posts having probably been determined by distinction in mathematics or classics. Some of the schools he would not suppress but amalgamate.

Dr. C. O. HAWTHORNE thought the very atmosphere in a class on medical jurisprudence was an education in medical ethics without the need of a special class. He objected to the proposal to reduce the Pharmacopœia to half, as that book was created for the benefit of the public; its definitions had the force and authority of law. If London were to become, as it should be, the great centre for post-graduation teaching there must be a post-graduation hospital, and in connexion with that a college. On the

general question each hospital in the country should be made a centre to which medical men could feel, in a moral sense, they were at least attached, in the same way as all solicitors felt their attachment to the High Court.

Dr. E. KINGSCOTE spoke of the need for centralised work in the promotion of post-graduate teaching.

Mr. N. BISHOP HARMAN referred to the great mass of unused clinical material resident in the many Poor-law institutions. He also had a word in favour of the study of anatomy from the morphological standpoint. If the medical profession in this country had sufficient imagination they could bring about amazing developments along the lines which had been alluded to. He hoped the subject would be brought forward again.

Mr. G. Q. ROBERTS (secretary of St. Thomas's Hospital) alluded to the question of examinations, and thought some reform was needed. At present it seemed practically impossible to get medical students into the special departments; they felt they had not the time to spare owing to the need to pass their various examinations. It was extraordinary how ignorant many schoolmasters were as to how to prepare boys for their preliminary examinations. Mechano-therapeutics was a well-established department at his hospital, where 1250 treatments per week were being given. Men needed to "get their fingers on to" cases, not merely to sit in rows and listen to what was told them about the cases.

Professor J. G. ADAMI strongly supported the idea that efforts should be made to make England the great centre for clinical teaching. To do that the present time afforded a unique opportunity.

Mr. WARING replied.

SOCIÉTÉ DE BIOLOGIE, PARIS.

THE following is a summary of some of the papers read at meetings of this society held on Nov. 9th and 16th:—

C. LEVADITI. — **Antistreptococcic Vaccination in Gunshot Wounds.**

L. obtient un pourcentage global de succès; s'élevant à 92 per cent.; sous l'influence de ce traitement, combiné avec les autres procédés classiques pour les plaies de guerre, le streptocoque disparaît, et on n'a plus affaire qu'à un traumatisme banal.

L. MOREAU.—**X Ray Shadows at the Lung Hilus.**

Les ombres hilaires observées sur le vivant ne se retrouvent pas sur le cadavre. Il semble donc que la théorie, d'après laquelle ces ombres seraient produites par le sang circulant dans les vaisseaux du hile, soit plus vraisemblable. Toutefois lorsque ces ombres ont une tonalité très élevée, les ganglions péribronchiques participent à leur formation.

ARTHUS and SIECHART.—**The Dosage of Pepsine.**

1° Préparer une liqueur gélatineuse acide. La répartir en deux séries de 10 tubes. Ajouter à chaque série respectivement, 0, 1, 2, 3, &c. gouttes de suc gastrique, et 0·1: 2, 3 &c., gouttes d'une solution type de pepsine dans l'eau. Laisser ces tubes pendant 24 heures à température du laboratoire. Les tubes sans pepsine sont gélifié. Noter la durée de l'écoulement de 5 cmc. du liquide de chaque tube, aspiré au préalable dans une pipettte. Comparer les nombres obtenus dans les 2 séries. Connaissant la quantité de pepsine de l'une des séries, on la calculera pour l'autre.

M. AYNAUD.—**Malaria and Associated Infections.**

Il est difficile d'apprécier le degré d'immunité des paludéens à l'égard de la grippe. Le paludisme ne crée pas un état d'hypersensibilité à la grippe. Le fait est d'autant plus interessant que pour d'autres infections les paludéens ont une réceptivité très grande.

M. AITAFF.—**Etiology of Spanish Influenza.**

Le pneumocoque et le bacille de Pfeiffer pénètrent par la même voie et en même temps dans l'organisme. Cette symbiose donne au bacille de Pfeiffer une plus grande vitalité et une plus grande virulence.

COURMONT, DURAND, DUFOUR.—**Associated Organisms in Influenza.**

1° Pneumocoque est rare; 2° le bacille de Pfeiffer constant dans les lésions pulmonaires, fréquent dans la gorge, ne se trouve pas dans le sang; 3° le streptocoque hémolytique ou viridance est associé aux bacille de Pfeiffer. Il joue un rôle capital dans la génèse des complications pulmonaires.

LOUIS MARTIN.—**Diphtheria Carriers.**

Le bacille diphtérique reste virulent après guérison apparente. Les convalescents de la diphtérie, comme ceux des diphtéries anormales, peuvent être porteurs de germes. Technique de la recherche de porteurs: On ensemence le sérum, soit par la spatule, procédé recommandé, soit par le tampon stérile, soit d'après le procédé Costa. Examen des colonies: Les tubes sont placés à 37°, les colonies sont bien développées après 24 heures ou 36 heures, elles sont d'un blanc grisâtre, sèche à la surface, à contour net, très arrondies. Les bacilles sont longs de 4–6 μ. Les extrémités arrondies sont plus grosses que le centre. Le bacille diphtérique prend le Gram, il présente aux deux extrémités des grains prenant fortement la couleur. Coloré par le Gram, le bacille diphtérique, âgé de 24 à 48 heures se décolore en 15 minutes dans l'alcool absolu. Sur gélose profonde, glucosée tournesolée, le bacille diphtérique fait virer au rouge le tournesol, il pousse en profondeur, ce qui le sépare du plus grands nombres de bacilles dits pseudo-diphtériques. La contagiosité des porteurs et des malades diminue avec le nombre et la virulence des colonies. Recherches des porteurs.—Porteurs précoces, commençant une diphtérie, porteurs anciens dits porteurs sains, peut être immunisés par une légère atteinte. La recherche et l'isolement des porteurs dans les collectivités de gens valides doit être recommandée. Les porteurs ne doivent être rendus à la vie commune qu'après deux ensemencements négatifs à 6 jours d'intervalles, les bacilles pouvant reparaître. Traitement des porteurs, soit par attouchements de la muqueuse avec du sérum antidiphtérique, soit par la méthode sérothérapique, soit par inhalation de sérum en poudre, soit mélangé de sérum et d'arsénobenzol, soit par des cultures de staphylocoques dorés pulvérisés dans le larynx. Prophylaxie: isolement des porteurs et surtout des malades, desinfection, injection préventive.

DOPTER.—**Meningococcus Carriers.**

La morbidité de l'infection méningocoque est une de celle qui a paru négligeable dans la zone des armées. La cérébrospinale n'a sévi que suivant une mode sporadique, et les petits foyers d'infection se sont étients sur place. En temps de paix la "méningocoque" avait une grande puissance de diffusion et les porteurs dans le millieu de cérébrospinale étaient nombreux. Dans la zone des armées la rareté des porteurs est remarquable. Cela tient à ce que la densité de fronts a été peu élevée, et dans les dépots, où les troupes sont plus resserrées, le nombre restreint de porteurs semble en rapport avec la rareté de la cérébrospinale. Le porteur a joué un rôle de propagation limitée, mais qui entretient la graine spécifique. La prophylaxie consiste dans l'isolement des porteurs sains et des suspects. L'activité de laboratoire y contribue pour une large part.

LEVADITI.—**Streptococcus Susceptibility of Wounds.**

1° Une plaie, devenue streptococcique, réinfectée par le suc provenant d'une autre plaie streptococcique, à peu de chance d'infection. 2° il est de même lorsque la réinfection est faite par le strepto cultivé chez le blessé lui même. La réinfection a lieu si l'on se sert d'un strepto virulent d'un autre sujet.

Reviews and Notices of Books.

Dr. John Radcliffe: a Sketch of his Life, with an Account of his Fellows and Foundations. By J. B. NIAS, M.D. Oxon., M.R.C.P. Lond. Oxford: The Clarendon Press. 1918. Pp. 148. 12*s.* 6*d.*

Dr. Nias was Radcliffe travelling Fellow during the term 1882–5, and, as every pious beneficiary should, he has set himself the task of becoming acquainted with the life of his benefactor, with his foundations, and with the lives of his fellow beneficiaries. The results of his inquiries are embodied in the interesting little volume which lies before us. Radcliffe's foundations were two in number—namely, the Fellowships and the Library—but Oxford also owes to him, through the generosity of his trustees, the Radcliffe Observatory and the buildings of the Radcliffe Infirmary. The two latter foundations were not specifically provided for in Radcliffe's will, but the trustees were enabled to furnish the money owing to the falling in of annuities which had been paid to Radcliffe's two surviving sisters and sundry nephews and nieces.

It is unnecessary to say more here about the facts of Radcliffe's life than that he graduated in medicine at Oxford in 1675, being a Fellow not of his own College, University, but of Lincoln, that he proceeded D.M. in 1682, and that in 1684 he gave up his Oxford practice and went to London, where he speedily acquired a large practice. He was physician to Princess Anne, afterwards Queen, and to William III. and his Queen. He was a sound physician as far as knowledge went in his day, did not mince his words to his patients, was honest and upright, and made a large fortune, which he devoted by will entirely for the advancement of the study of natural science and medicine in connexion with the University of Oxford. The Radcliffe Fellowships were, according to the founder's regulations, two in number, tenable for the term of 10 years, not liable to forfeiture on marriage, and of the value of £300 per annum. The candidates had to be Masters of Arts, and "entered on the physic line"; but their professional training was to be obtained outside Oxford, for they were required to spend half at least of the 10 years in "travell in parts beyond sea for their better improvement." Such were the regulations of the original foundation. In 1858 alterations were made, the tenure of the Fellowships becoming a term of three years, while an election was made every year.

Dr. Nias's notes on his predecessors and successors in the Fellowship are all interesting, and there are incidents in the career of the first Radcliffe Fellow which we select to note. He was Dr. Noel Broxholme and was elected in July, 1715. In one of his Fellowship journeys he treated an opulent merchant in Paris, who gave as fee a draft for £500 Mississippi stock. On his return to London Broxholme found

the Mississippi Bubble in full swing and sold his £500 draft for £10,000. On another occasion he was called, together with Dr. Freind, to Ingestre to see a gentleman by name Pulteney. They found him in a desperate state and could only say that nothing could be done. The patient kept on murmuring, "Small beer, small beer." Freind and Broxholme wisely said, "Give him small beer or anything." So a large silver tankard was brought, holding two quarts, full of small beer, to which was added the juice of an orange. The patient drank the whole at a draught and called for another, which was given him. After drinking this he fell into a profound sleep, with profuse sweat, and continued so for 24 hours. "From that time he recovered marvelously insomuch that in very few days the physicians took their leave, saying that now he had no want of anything but of a horse for his doctor and of an ass for his apothecary." Soon after this St. George's Hospital was opened—1733—and Broxholme was elected one of the first physicians, Dr. Peters, another Radcliffe Fellow, being elected two years later. Dr. Nias adds: "We shall see that other Radcliffe Fellows were lured away from Oxford, so that Radcliffe's project began to fail of its intentions." Radcliffe had hoped that by his benefactions a race of well-educated physicians would be raised to practise and teach in Oxford, for he had arranged that during the tenure of the Fellowship his Fellows should reside in Oxford while in this country, two sets of rooms being reserved for them at University College, together with a seat at the High Table. But Oxford possessed no infirmary until 1772, so that Oxford medical men naturally went where there were opportunities for seeing clinical work. The end of the first Radcliffe Fellow was sad, his mental faculties decayed, and he committed suicide in 1748. The account of the Radcliffe Library and Infirmary, appended to Dr. Nias's biographies, are from the pens of the Librarian and Radcliffe Observer respectively, Mr. W. Hatchett Jackson and Dr. A. A. Rambaut. Altogether the book is a worthy memorial of one of Oxford's most generous sons.

Les Borgnes de la Guerre: Prothèse Chirurgicale et Plastique. Par Dr. G. VALOIS. Paris: Masson et Cie. 1918. Pp. 224. 12 fr.

THIS is an extremely interesting study of the treatment of those who have lost an eye in the Great War. The injuries of the eye have formed a proportion of wounds far in excess of any preceding war. The work of the ophthalmic centres has been correspondingly heavy. It is most important that the men who have suffered this loss should have the deformity concealed as far as possible. Therefore the treatment of the damaged lids, the preparation of the socket, the method of removal of the injured eye, when this is necessary, and the choice and adaptation of a prothesis are all of unusual moment.

Dr. Valois shows in great detail the methods which experience has taught him to adopt for the best cosmetic result, combined with the necessary caution to preserve the undamaged eye from risk. While it is most important to preserve all skin, when the lids are involved, and all conjunctiva, the author is strongly in favour of the complete removal of the injured eye. All attempts to leave a part of the sclerotic and use it as a means of improving the stump he condemns on the ground of the risk of sympathetic ophthalmia. He justly points out that the artificial eye is at best only a means to hide deformity; therefore it cannot be right to allow any patient to run the risk of total blindness from sympathetic inflammation of the fellow eye merely to improve slightly his appearance. There can be no question that this point of view is correct, and the sole cause for differences in practice is the different opinion held by ophthalmic surgeons as to the risk of sympathetic inflammation after such an operation as evisceration. Dr. Valois's view sharply contrasts with that put forward by Dr. Weekers in Vol. III. of the Practical Medicine Series reviewed below.

Dr. Valois speaks very strongly of the value of immediate attempts to reform the lids, as far as possible, even after severe shell injuries, by replacing the torn skin in position and securing it by stitches. These immediate operations often, he says, result in the happiest way, and always make future interference easier. For the purpose of increasing, as far as possible, the mobility of the glass eye, and lessening the deformity, he utilises a flap of sclerotic which had been removed from the excised eye, and to this he stitches the tendons of the recti. He thinks this is superior both to extraneous supports, such as Mules's spheres, or to autoplastic skin or cartilage masses.

The adaptation of the artificial eye to the socket forms the subject of the last half of the book. The socket after such wounds is rarely normal; Dr. Valois recommends that a cast in plaster be taken of each case and the eye adapted to this.

Diseases of the Eye. By J. HERBERT PARSONS, F.R.C.S.Eng. Third edition. London: J. and A. Churchill. 1918. Pp. viii.-668. 16*s.* net.

THE second edition of this well-known handbook was reviewed in these columns in June, 1912; that a new edition of a book which is but slightly connected with military surgery should be called for is a fact which speaks well of the general interest of the profession in the special departments. It has been in the past to some small extent a justifiable reproach to the profession that they appeared to neglect ophthalmic surgery and to regard it as a mystery revealed only to the few. The very real interest shown by the demand for such books as the one in review is in itself a proof that the reproach is no longer deserved.

It is inevitable that successful text-books should increase in size, and the enlargements of the present edition are considerable. They include a new section on symptomatic disease and additions to the operative and therapeutic sections; the preface also states that short accounts of less common diseases of the eye are added, distinguished from the main text by smaller print; this practice, which would assist in keeping the book of reasonable size, might, we think, have been extended with advantage. We doubt whether for a student's handbook any mention of ophthalmia nodosa—a disease of which some half-dozen cases are recorded—is desirable, yet this remains in large print; in fact, the small print has to be hunted for. Spring catarrh, again, will be seen by few general practitioners, yet it remains in large type and occupies more space than ophthalmia neonatorum.

It is easy to be critical, and extremely difficult for an author to avoid diffuseness; still, in a student's handbook we think the pruning knife should be used freely to excise those matters which are not likely to be met with in general practice. On the other hand, and, in fact, as a complement to this, the commoner diseases might have with advantage a little more detailed description. Thus a short account of Priestley Smith's experiments on glaucoma would have been very valuable to the student. There are a few points in the text which are obscure; for example, in the section on malingering, on p. 390, it is said that when the malingerer looks at Snellen's letters, which are printed in red, and with a red glass before the good eye, the good eye will see only the red letters; this is so if the letters are seen as a transparency, or if they are printed in colour on a black ground. If, as the text seems to imply, they are printed in colour on white, the eye with the red glass sees the green letters but not the red. The tone of the preface is a mistake.

The Practical Medicine Series. Vol. III.: *Eye, Ear, Nose and Throat.* Chicago: The Year Book Publishers. 1918. Pp. 384. $1.60.

THE section on the eye in this year book is edited by Dr. Casey Wood, who has increased its value by his comments on various papers included in abstract form. The war has been responsible for a diminution of writing on all subjects but itself, and the military surgery of the eye forms a considerable section of the present volume. Weekers is quoted as a strong advocate for evisceration of the eye in place of enucleation; he claims that this gives as complete security against sympathetic disease, and infinitely better cosmetic results. He has found sympathetic disease rare in all cases and attributes this to the common use of aseptic and antiseptic precautions from the moment of the receipt of the injury. Terrien, also, is quoted in favour of the retention of a "natural stump" for the support of the prosthesis. He considers that none of the methods for the attainment of such stumps are entirely devoid of risk of sympathetic disease; both he and de Lapersonne protest against the hurried removal of every damaged eye at the base hospital. There is little, if anything, to gain from immediate operation, and often an eye which appears totally lost may recover some little sight. This point is of special importance when both eyes are injured. Lastly, Dianoux protests against enucleation. He believes in the value of evisceration, and would never remove an eye except where it has been blown to pieces.

THE LANCET.

LONDON: SATURDAY, DECEMBER 7, 1918.

Demobilisation and Venereal Diseases.

PESTILENCE has invariably accompanied and dogged the footsteps of war, although not always the same disease has been the comrade and follower. We have had, and are still having, our experience of a devastating pandemic in the last year of the present war, and though many great epidemics of influenza have smitten populations in times of peace, the range and severity of the present one were, no doubt, the outcome of the war conditions throughout the world. We have been warned of the risk from lice-borne diseases that returning troops may bring to the civil population, and although that risk is one that can be guarded against with some certainty the medical profession know well of its existence. And now the fear of a wide spread of venereal disease is before the minds of those best able to judge of its likelihood. Are we ready to meet a massed attack of this sort should it be made? In an interesting book, published by the Carnegie Endowment for International Peace, Dr. F. PRINZING [1] recalls the far-ranging outbreak of syphilis at the end of the fifteenth century when the Landsknechte of Central Europe returned to their distant homes. We know more now—infinitely more; but let it be remembered that the facilities for intercommunication have certainly increased as much as our knowledge, while, alas, the public takes all the facilities greedily, but makes little use of the knowledge. Another historic outbreak of syphilis associated with CHARLES VIII.'s expedition to Naples in 1495 again resulted in wide dissemination over the whole of Europe. These are warnings not to be disregarded when Lord SYDENHAM, writing as President of the National Council for Combating Venereal Diseases, states that as many as 300,000 men of the Navy and Army may be under treatment for infective venereal disease at the moment. That such a figure should be in question removes the need of further urgent plea that defences should be set up. We must see that these are prepared promptly, but also carefully. It is not a time for panic legislation, of which we have already had something in the Regulation 40 D, which has now been suspended with almost universal approval.

That the demobilisation of armies should be attended by the spread of venereal disease among the civilian populations is an obvious likelihood. There must be present at such a time great inducements to sexual intercourse, regular or irregular. There is a large resumption of marital relations, there is a large number of young marriages, there is a large number of unions of a temporary nature, there are pent-up longings for natural expression, and relaxations of standard. The demobilised troops have been placed with regard to venereal infections at one and the same time very favourably and very unfavourably. So far as accident and as temperament dictate the incidence of venereal diseases among them, many have been precluded from the outlet of natural passion and may possibly find that they are able to restrain themselves at the instance of an acquired discipline. Many will not be able. This latter class, a certain proportion of whom are known to be dangerous males, will now, on demobilisation, be exposed in bulk to other sources of infection, and accident alone will determine whether the chances of infection which they exchange become rampantly present or fortunately absent, unless some scheme of prevention is prepared. The Government has been stirred by a debate which took place in the House of Lords at the end of November to consider strong measures of precaution. Lord SYDENHAM on that occasion solemnly warned the Government that if such measures were not taken quickly there would be serious results to the whole population extending over many years, adding that the necessary legislation had not been taken in time, and that an Act dealing with quack remedies was proving of no practical use. Lord MUIR MACKENZIE, who had presided over a Committee which took evidence on all these points, complained that the Committee was belated in appointment, so that no chance had been given for introducing a Bill embodying recommendations which it might make, but he urged the next Parliament to take up the matter in the light of the information now available. The fear is that nothing effective will be done for some weeks, as Parliament is now prorogued to make way for a General Election; but the feeling among medical men is that, while political machinery has disappeared from Westminster, the permanent Departments of Government are not rendered inactive thereby, but, on the contrary, may obtain a freer hand. The Local Government Board will be expected to be aware of the dangers which must arise from the release of a large number of infected men, and to be ready with arrangements for meeting the evil. The National Council for Combating Venereal Diseases have published recommendations which should be carefully considered by the Board, as by all other Departments which can make them their concern. One of these recommendations goes to the root of the matter, for it suggests that no sailors or soldiers should be discharged while in an infective state. They incurred the disease in the service of the country, and it is the business of the country to return them in as fit a condition as possible. The sense of this recommendation is obvious. The Navy and the Army have got the men in disciplinary clutch. They can effectively control them, they can watch their improvement stage by stage until they are safe members of society, and they can compel the measures necessary to this end. For the rest many treatment centres have been established in England and Wales at

[1] Epidemics Resulting from Wars. By Dr. F. Prinzing. Clarendon Press. 1916.

which infected citizens can obtain treatment in sympathetic circumstances at the hands of specialists, while at these centres the presence of the general practitioners of the neighbourhood is invited—we might almost say urged—so that as many medical men as possible should familiarise themselves with techniques which have evolved from comparatively modern medical science. Here is at once a direction in which the cure of the infected and the prevention of spread of disease can both be strengthened. These centres require immediate multiplication. Many Army doctors have now specialised in the treatment of venereal disease, and their services should be used in connexion with the establishment at large provincial hospitals of clinics for the treatment of venereal diseases. No town of over 10,000 inhabitants should be without one.

Although the difficulty of staffing the centres should now be relieved by the discharge from the Army of doctors who have become experienced in the treatment of venereal diseases, treatment is almost futile unless it is prolonged to complete cure, and the standard of cure remains to be set up. A powerful plea for more rigorous standards of cure in the treatment of gonorrhœa by Mr. E. R. TOWNLEY CLARKSON, which we published in our issue of Nov. 30th, will awaken the medical profession to an appreciation of the difficulties. We fear that among some medical men there is still the half-expressed dislike to treat venereal disease at all. There is the tendency for the practitioner who first sees the case to hand it on to another for treatment. The patient naturally is loath to advertise his condition, and the inevitable result is the postponement of treatment until cure is difficult or the premature cessation of treatment before it is complete. On the side of the public there is still a widespread ignorance with regard to the results of the disease and the tendency to regard it frivolously. The infected woman especially is often unaware that anything at all is wrong with her; a vaginal discharge to her is just the "whites," and is often regarded as a normal condition. Remedies of a palliative nature soon cause an abatement of her disturbing symptoms and lead to discontinuance of treatment and spread of disease. This is a position of far-reaching possibility for evil. To return to the spread of disease by men during demobilisation, every man on demobilisation should be investigated from this point of view, and not by cursory questions, but by routine methods. The record sheets will be a help to this end. Such men as have evidence of the disease should be segregated until they are cured. But the great difficulty remains. A man may be cured and be free, but it is the women, and not only those of easy virtue but the married women who remain as a menace. Quite a number of married women, it is known, have already acquired the disease in the absence of their husbands or from husbands who may have been since cured. The men can be easily dealt with, but how to cure the women is frankly a terrible problem. And if they are not being treated how to stop the spread? We have said that this is not the time for panic legislation, but it is exactly the time for speaking out, so that the people may understand. A popular campaign which should teach people the nature and danger of venereal diseases is a revolting idea to many—even to some doctors. The times should have altered such views. The incidence of both syphilis and gonorrhœa since the beginning of the war must be great; it is not limited to any particular class or to the usual ages. While it behoves the doctor to instruct himself in the treatment of venereal diseases, and the Government to find facilities for such treatment, the education of the general public comes only next in importance. The National Council for Combating Venereal Diseases have done much, but as yet there is little general response to the movement.

An Enemy Medical Boycott.

RECENTLY one of the two principal German medical papers[1] contained in its current notices the paragraph:—

"Das englische Fachblatt *Lancet* bringt seit kurzem eine französiche Beilage, die unter Redaktion von Prof. Ch. Achard und Dr. Ch. Flandin in Paris Beiträge französischer Verfasser in englischer Uebersetzung enthält."

And in so doing broke the silence of years in regard to quotation from our columns. German medical editors were free to receive THE LANCET during the war, and they certainly kept a close watch upon articles of a critical or antipathetic nature appearing in the medical press of this country. We need only recall the exchange of compliments following on Dr. J. P. ZUM BUSCH'S account of his internment experience at Stratford.[2] The *Muenchener*, like the *Deutsche*, has during the four years of hostilities, contained a small weekly paragraph (signed, in the case of the latter, with the editor's initials) summarising current events of the war. Comment has at times been bitter, especially in regard to such matters as the detention by the French authorities of captured German Red Cross personnel, and the alleged effect of the food blockade in bringing pressure to bear on mothers and children. The asperity has included the business management of the papers, an instance of which we may repeat. An inquiry made from Switzerland for the translation rights of a surgical war primer elicited from the publisher of the *Muenchener* a telegram to the effect that translation was futile, as the wounded and captured British soldier would be treated in *German* hospitals on the lines of the *German* edition. Note that the capture of the British soldier was assumed, and LEHMANN was known before the war as a prominent advocate of pan-Germanism. On the other hand, close study from week to week has failed to detect any kind of bitterness, or even tendenciousness, among the scientific articles appearing in the two principal German papers already named, or in the *Wiener klinische Wochenschrift*, the leading Austrian medical journal. The work of British, American, and French surgeons of note has been freely

[1] Münchener medizinische Wochenschrift, Oct. 29th.
[2] THE LANCET, 1916, ii., 331.

utilised and dealt with in an objective manner in these periodicals by professional writers. Where credit has been withheld, the omission has apparently been due rather to misinformation than to any desire to suppress. Probably not all Austrian clinicians and not all German professors read English as fluently as their own language.

Our professional relations and those of our Allies and of the United States to German medicine are not as yet easy to define. Some few straws indicate the direction of the current. A special commission has recently reported to the Paris Academy of Sciences on the international scientific relations which should rule after the war. The conclusions of this commission have just been adopted with *une forte majorité* by the Academy of Medicine. Both academies consider that personal relations between the *savants* of the two belligerent groups are impossible until reparations and expiations have been made. They suggest that the Central Empires should be obliged by the peace terms to retire from international scientific associations except in so far as indispensable services are concerned. And then navigation, railways, telegraphs, are catalogued as services in which we cannot dispense with German and Austrian coöperation, but neither public health, medicine in general, nor quarantine is mentioned. The immediate establishment among the Allies and the U.S.A. of new associations is contemplated with the addition of representatives of Neutral countries. The Allied Governments under this scheme would in future abstain from sending delegates to any meeting at which representatives of the Central Powers were present, while dispositions would be studied for an intimate collaboration between the several Allies and the U.S.A. in the whole domain of science. In similar mood, and at the suggestion of the Royal College of Surgeons of England, the Royal College of Physicians of London is considering the exclusion of German and Austrian universities from the list of schools accepted by the Conjoint Examination Board for certificates of study. An inter-Allied conference which met at Burlington House, London, on Oct. 9th called upon the scientific academies of the Allied nations to declare their inability to resume personal relations in scientific matters with the Central Powers until the latter have publicly renounced the political methods which have shocked the civilised world. Our own British scholars who published on Oct. 21st, 1914, a reply to the notorious manifesto of the 92 German professors admitted how hard it is for human beings to weigh justly their countries' quarrels, generously adding that they did not question for a moment the personal sincerity of their German colleagues in expressing horror at war and zeal for the achievements of culture. Our British scholars did more than this, and went on to record their real and deep admiration for German scholarship and science, and to acknowledge the many ties of "comradeship, respect, and affection" which bound them to Germany. We can imagine that some of these ties have lost their influence, and that for the time being German men of science will share in the general obloquy until some expression of real apology is forthcoming.

The term "boycott" has been applied by the daily press to the action contemplated above, but we foresee certain difficulties in regard to an enemy medical boycott. For clearness sake an exact definition is desirable. The methods employed against Captain CHARLES CUNNINGHAM BOYCOTT in the year 1880 were of a drastic character; his life was threatened, his fences torn down, his letters intercepted, and his food-supply interfered with. By British medicine this course has not been followed, and it will not be, as far as we can see. To take a simple example. The *Daily Review of the Foreign Press*, issued by the General Staff of the War Office, has not hesitated to make full use of German medical science. A recent instalment reviews at length the treatment of gunshot injuries of nerves in enemy countries, and gives medical, surgical, and pathological notes from German workers, with the object of providing useful comparison for our home workers. In fact, an influential section of the press recently made a bitter complaint against our own Local Government Board that it had not utilised to the full information available from this source. To those who have adopted such a course a boycott in medical matters would be a difficult thing to carry through logically. It could, in truth, only be practised by those who possess no knowledge of the German language nor any appreciation of what has been done by German workers. The attitude adopted by the War Office in its *Daily Review* does not imply the endorsement of the methods of famous Germans. We may all wish that LUTHER had been more reasonable, that KOCH had been more discreet, and that VON BEHRING had turned his researches less to immediate personal advantage. But this desire does not induce sensible people to boycott the Bible, tuberculin, or antidiphtheritic serum. No courageous person refrains from adhering to a cause because it is advocated by unpleasant people or in an intemperate manner. A study of contemporary German medical literature suggests no reason for not studying it; this done, the medical boycott will be found impracticable.

ALVARENGA PRIZE.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $250, will be made on July 14th, 1919, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the secretary of the College, Mr. Francis R. Packard, 19, South 22nd-street, Philadelphia, on or before May 1st, 1919. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. No Alvarenga prize for 1918 was awarded.

Annotations.

"Ne quid nimis."

MEDICAL REPRESENTATION IN PARLIAMENT.

THE last day for the nomination of Parliamentary candidates was Dec. 4th, and the following is a complete list of medical men who are standing:—

Universities.—Belfast (Queen's): Sir William Whitla. Dublin: Sir Robert Woods. London: Sir Wilmot Herringham. Scotland: Sir Watson Cheyne, Dr. Peter Macdonald, Principal W. R. Smith.

London District.—Bermondsey (West): Dr. Alfred Salter. Shoreditch: Dr. Christopher Addison. Southwark (Central): Dr. L. Haden Guest. Stepney (Whitechapel and St. George's): Dr. Robert Ambrose. Willesden (West): Dr. J. S. Crone.

County Boroughs.—Birmingham, Moseley: Dr. R. Dunstan. Leeds, North: Dr. A. C. Farquharson. Liverpool, Wavertree: Dr. Nathan Raw. Morpeth: Dr. T. M. Allison, Mr. G. D. Newton. Wallasey: Dr. B. V. P. McDonald. Wolverhampton, Bilston: Mr. J. W. Kynaston.

English and Scottish Counties.—Derby, High Peak: Dr. Clifford Brookes. Durham, Bishop Auckland: Dr. V. H. Rutherford. Hants, Basingstoke: Sir Auckland Geddes. Inverness (Western Isles): Dr. Donald Murray. Lancs (Farnworth): Sir Thomas Flitcroft. Stirling (Clackmannan and East Stirling): Dr. W. A. Chapple.

THE MEDICAL PARLIAMENTARY COMMITTEE.

THE Medical Parliamentary Committee has been working steadily during weeks which have been particularly exciting in political circles. The Committee sprang to life in response to a general feeling in the medical profession that the medical view is largely unrepresented in Parliament, and if its birth was too late to allow much to be done in respect of the General Election now upon us, it has accomplished work that may be of real value in the immediate future. The Committee has made inquiries through the country with regard to medical men willing to stand for Parliament, either now if their help is sought, or in the future as opportunity offers itself. The result of these inquiries has been the collection of information which will be of the greatest use in future elections, and in particular in by-elections, where it is more likely that a constituency may find itself suddenly willing to adopt a new candidate. The information which the Committee has received, and is receiving, will greatly help in the selection of Parliamentary candidates by being able to answer questions arising out of the candidate's views, circumstances and wishes alike. Everyone knows that there are candidates for Parliamentary honours who are pressed into the position by the public, and other candidates who are drawn into it by their personal desires and their hopes to do good, and yet others who feel that their particular profession is without adequate voice in the councils of the nation. In these divisions some men will be found to whom the expense to be incurred is of no consequence whatever, some to whom the expense is an absolute bar without full pecuniary guarantee, and the remainder who may or may not want assistance in varying proportions. It is of the very essentials of the work of the Medical Parliamentary Committee that all these particulars should be gathered without any regard to the party which the candidate will desire to support. The medical man in Parliament, as he is conceived by the Committee, is one who will follow the dictates of his reason with regard to party politics, if he wishes to, or if he must, assume a badge of that sort; but his grand duty in the House of Commons towards, not his profession nor his constituency, but the public, will be to uphold all legislation having for its object the improvement of the health of the people. As a selected medical man he will be able to do this with competency; he will have the medical profession outside the House of Commons as his colleagues, and he may expect from the Medical Parliamentary Committee indications as to when and how his voice should be raised. This is adumbrating for the Medical Parliamentary Committee a future of great usefulness, but such a future will only be obtained if now, while the Committee is in the making, the coöperative help of the whole medical profession is received for the movement. The Committee is offering to supply speakers wherever possible to any medical candidates for Parliament who may desire such assistance in the election. The time is short, and in order to facilitate arrangements the names of all medical men willing to render assistance should be sent immediately to the honorary secretaries of the Committee, Dr. Arthur Latham and Dr. Charles Buttar, care of the Committee, 20, Hanover-square, London, W. 1.

THE CONTRA-INDICATIONS OF RADIOTHERAPY IN CERTAIN FORMS OF CANCER OF THE SKIN.

RADIOTHERAPY constitutes a great advance in the treatment of many forms of cancer, but its limitations are not so well recognised as they should be. At a meeting of the Académie de Médecine of Paris M. J. Darier has done well in calling attention to the contra-indications of radiotherapy in certain forms of cancer of the skin. In many cases it brings about rapid cure without pain or mutilation, but in others it fails, and may even aggravate the disease, to say nothing of the dermatitis which may be produced by excessive doses. To explain these results errors of technique or in the estimation of the size and depth of the tumour have been invoked, but M. Darier does not agree with these explanations. He attributes unfortunate results of treatment generally to the kind of cancer treated. He divides cancer of the skin and mucous orifices into four classes. 1. The form which is curable by radiotherapy, tubular or baso-cellular epithelioma (rodent ulcer), the ordinary cancer of aged persons which never affects lymphatic glands nor causes metastases. It yields marvellously to a few séances of irradiation. If the tumour is budding and voluminous the greater part can be removed as a preliminary with a curette or otherwise. It is only in advanced cases when the ulcer has invaded bone or the cavities of the face that radiotherapy fails. 2. M. Darier holds that "lobulated or spino-cellular epithelioma," which is the usual form of cancer of the tongue and lips (smoker's cancer), of the external genitals and anus, and of the scar of lupus, should never be treated by radiotherapy. It rapidly infects the glands, and usually proves fatal in less than two years. The X rays or radium produces only apparent improvement for two or three weeks. Then proliferation is more active and seems to have been stimulated. Often a case operable at first becomes inoperable after radiotherapy. Excision as early as possible is the only treatment. 3. Radiotherapy is useless in melanotic sarcoma (nævocarcinoma), and means only loss of precious time. Surgical treatment, of which M. Darier

prefers electrolysis, is indicated. 4. There is only apparent advantage in treating by radiotherapy the small cutaneous growths secondary, for example, to cancer of the breast, whether operated on or not. In spite of their frequent disappearance under the influence of the rays the prognosis of the disease is in no way improved. Thus it is absolutely necessary when there is tumour or ulcer of the skin which appears cancerous to make an exact diagnosis of the kind of cancer. If the clinical signs do not establish this a biopsy and histological examination are indispensable. An exact diagnosis can thus be made and the question of radiotherapy decided, in his opinion, and it is one which must have great weight.

THE ROYAL MEDICAL FOUNDATION OF EPSOM COLLEGE.

THE circumstances of war have seriously handicapped beneficent work of all kinds throughout the country, and the benevolent side of Epsom College has suffered in common with other institutions whose object is to relieve distress. Not only have expenses increased in consequence of higher taxation and the rise in prices, but many annual subscriptions have been withdrawn or reduced in amount. Coincident with this reduction in financial power, more applications for assistance have been made as a direct consequence of the war. Already two boys whose fathers had been killed in action as medical officers have been elected to foundation scholarships, while Salomons Entrance Scholarships have been awarded to two other sons of medical men who had lost their lives in torpedoed vessels. In addition to providing education of the highest class for 50 necessitous sons of medical men, with maintenance, clothing, and pocket money, Epsom College gives pensions of £30 a year to 50 aged and impecunious medical men and their widows, work which deserves the fullest support of the medical profession. We commend to our readers the appeal of Sir Henry Morris, the treasurer of Epsom College and its Royal Medical Foundation, as well as the advertisement, which will be found in other parts of the present issue of THE LANCET. In that appeal it is stated that if the number of beneficiaries are to be maintained £4500 must be procured in annnal subscriptions. We beg that this urgent need will be generously met.

LEGITIMATE WARFARE.

WE have become used to maiming and mutilation as a necessary—one may almost say a legitimate—result of warfare. The use of noxious gases producing death by asphyxia from pulmonary irritation has been a novel feature of the recent war, although the poisonous effect of lyddite fumes has been known for a longer period. The battlefield has been heretofore in essence a septic surgical ward; the most distressing conditions with which the physician has to deal have now been superadded. A letter appeared in the press last week signed by the Presidents of the medical Royal Colleges of the United Kingdom and by the Regius professors of medicine of the older Universities, asking that gas warfare should be abolished by the coming Peace Conference as a weapon of offence. The use of gas, the signatories justly contend, is condemned for three reasons: (1) That it is an uncontrollable weapon whose effects cannot be limited to combatants; (2) that it is an "unclean" weapon, condemning its victims to death by long-drawn-out torture; (3) that it opens the door to infinite possibilities of causing suffering and death, for its further development may well lead to the devising of an agent which will blot out towns and even nations. The letter deplores the devotion of the best efforts of science to devising more and more potent methods of causing death by chemical agencies. No two opinions can exist in regard to the abolition of gas warfare. The difficulty which confronts any Peace Conference is similar to that of limiting the activities of the mad dog; if allowed to bite at all the possibilities of harm are infinite.

THE NATIONAL IMPORTANCE OF GLASS-WARE.

THE importance of giving every possible encouragement to the glass industry, and particularly the scientific glass industry, in this country must be recognised when we reflect that the development of practically all industries depends primarily on the progress made in the laboratory. Here new processes can be developed, and here only can the means of utilising waste products be discovered. In addition to the laboratories for industrial purposes, there are the medical and research laboratories attached to the hospitals, the county and municipal laboratories in the public health services, and the laboratories in the universities, colleges, schools, and technical institutes, all of which use special glass apparatus. On the outbreak of war the country was faced with a serious shortage of chemical glass-ware, the only sources of supply in most classes of articles being the stocks of enemy-made apparatus held by the merchants in this country; and but for these stocks the situation, we understand, would have been disastrous, as there were no existing facilities for manufacture. We learn now that the British Chemical Ware Manufacturers' Association is appealing to the Inter-Departmental Glass Trades Committee of the Ministry of Munitions for practical help, and it is to be hoped that, in the interests of scientific research and industrial progress, their petition will receive very serious consideration, and ultimately be granted on terms which will give the industry a good start and keep it flourishing in this country.

TRIAL AND RE-TRIAL OF THE WASSERMANN TEST.

THE Wassermann test is one of the most complicated technical methods ever applied to diagnosis in medicine. It is difficult to believe that the technique will ever be mastered by more than a select few of the medical profession. At the present time even the principles on which the test is based are a sealed book to most men in clinical practice. The value of the Wassermann test has consequently to be taken largely on trust and the Medical Research Committee has performed a grateful task in submitting records[1] from which any careful reader will be able to form his own opinion of the clinical value of the test. We need hardly remind him that the reputation of the test depends upon three quite independent factors: the laboratory technique, the personality of the pathologist (if so we may call him in brief), and the accuracy of the clinician upon whose diagnosis the results of the pathologist are judged. No trial of the test is fair in which these factors are jumbled together. Many ways suggest themselves

[1] The Diagnostic Value of the Wassermann Test. Special Report No. 21 of the Medical Research Committee. 1918. Price 1s.

to the mathematical mind of testing them independently. The Research Committee's report notes the rather surprising neglect in the past of the precaution of controlling the value of the Wassermann test by demonstration of the *Spironema pallidum* or by pathologico-anatomical study of the material obtained on biopsy or autopsy. Clinical diagnosis is at best a comparative estimate of probabilities liable to be reversed by an accurate scientific method. The trial set up by the Committee and recorded in Special Report No. 21 took the form of obtaining samples of certain serums taken by an experienced clinician, A, from cases judged by him to be (*a*) certainly syphilitic, (*b*) doubtfully syphilitic, and (*c*) clinically non-syphilitic, and submitting these samples to three well-known laboratory directors, B, C, and D, and comparing the results obtained. One hundred and four specimens were thus submitted without clinical details, and the report records in parallel columns A's clinical data and the results of the Wassermann test as given by B, C, and D respectively. Each pathologist has his own method of recording results, but in all "positive" and "negative" are the two extremes, and it is the intermediate grades of certainty which are differently expressed. The report contains A's judgment on B, C, and D's results; it may be remarked, in passing, that the chemical sign $\rightleftharpoons$ is applicable here, and that B, C, and D might have been asked to judge A's findings. Comparing the technique of B and D, A finds remarkably close results, the only important divergence being in a case of carbuncles "clinically non-syphilitic" (A's auto-judgment) returned by B as positive (middle grade), and by D as negative. C returned the same case as positive. In three "syphilitic" cases (all treated) D's technique appeared more sensitive than B's, while in three other "syphilitic" cases (all treated) B's reaction suggested a greater sensibility than D's. C's results are not so close and differed from the clinician's diagnosis in several instances, some of which were important clinically. Apparently (the note is not A's, but added by the Committee) in five of these divergent results some defect existed in the laboratory technique on one particular day, for the serums subsequently re-tested in C's laboratory gave results substantially coinciding with those of B and D. Another divergent result of C rested (Committee's statement) upon a simple clerical error. The results as set out in the report should be closely studied by all who are interested in making empirical medicine scientific. The Research Committee asks readers to draw their own conclusions, adding:—

> The Committee consider that in the hands of those whose previous record entitles them to be considered as experts the percentage of positive Wassermann reactions in active syphilis is so high that the test may, for all practical purposes, be looked upon as specific.

The warning then follows:—

> It cannot be expected that this, or indeed any similar biological test, should invariably reveal the presence of some particular disease. The diagnostic value of any such test may be impaired, either by the imperfection of the test itself, or by some failure in its performance, or by idiosyncrasy of the patient, whereby he may fail to react characteristically.

We have no doubt that the reader's opinion will follow the Research Committee's lead. The practitioner has obtained a guide to clinical practice, but not an infallible one. In sending a specimen to be examined at a laboratory the clinician is not immune from possible failure at any stage. His clinical acumen may be at fault; the patient may have an idiosyncrasy; the specimen of serum may be improperly taken; it may be damaged during transport to the laboratory; the laboratory technique may be at fault; clerical errors may slip in; the result may be communicated in ambiguous form. In all these directions a high standard is essential and improvement is possible and, indeed, desirable. But the investigation conducted by the Research Committee will impress upon the minds of the profession as a whole the high value already placed upon the Wassermann test by the comparative investigations of C. F. Craig, of P. Fildes and R. J. C. Parnell, of H. M. Turnbull, of Uhle and Mackinney, and numerous others mentioned in the historical survey which precedes the report.

BREAD: HEALTH VERSUS CUSTOM.

WHOLEMEAL bread, with 80 to 90 per cent. of the wheat grain utilised, was introduced by the Ministry of Food during the war as a result of the pressure of submarine piracy. Stern necessity dictated the measure, but the scientific advisers of the Ministry were, nevertheless, expressing an unbiassed opinion in pointing out to the public the advantages which they gained from wholemeal extraction. Necessity past, these advantages still remain. Some part of the public, however—a large part, for ought we know—prefers white bread. Many reasons are alleged for this preference, but custom pure and simple probably plays the chief share in it. Young people of the educated classes are practically innocent of any such preference. So soon as it ceases to be necessary to extract from the wheat grain all the contained nourishment available for human food we may assume that the reactionary part of the public will return with a sigh of content to white bread as we knew it before the war. Unfortunately, they will be joined by others whose experience with war bread has accidentally been unhappy. It is true that palatable bread could be, and was, made from war flour. The mixing and baking, however, differed materially from that required for white flour, and many a baker failed to attain proficiency. Nor was this entirely the baker's fault, for the wheat was diluted with varying quantities of "other cereals," so that it needed variable treatment. But the baker was not told the composition of the flour and had to go by rule-of-thumb with each new batch as it was supplied to him. Better bread could have been made with better knowledge, but we deprecate the use of the phrase "better bread" to describe the return to whiter flour. Those with a taste for such bread may consider it "nicer," but it is elevating personal predilection on a pedestal to make it the standard of goodness. We still read in old books of one man wearing a "better" coat than another, the word having no relationship to the warmth of the coat, and in this sense perhaps "better bread" may stand. Of course, the *economic* necessity of the transitional period between war and peace may dictate the surrender of 18,000 tons of "offal" weekly to farmers, pig-keepers, and others in order to feed their animal stock; hence an economic argument for white flour. The public is somewhat in the position of the prodigal who was fain to share the husks with the swine. But certainly no advantage to the *health* of the community can be claimed in purposely producing husks, or so-called "offal," from wheat to feed animals. It would be better to

continue to extract 80 per cent. or more from wheat for the use of man, and to use other cereals, not needed for man, to feed stock. Medical men should continue to point out the virtues of wholemeal bread in order that the public may ask for it, in which case they will get it. The experimental work done during the war has demonstrated for all time the superiority of wholemeal over white flour for healthy people, although the war bread as actually purveyed to the public was not always nice. Thus instructed, it will be the fault of the public if it returns to the old over-refined white flour.

AMERICAN HELP IN FRENCH PUERICULTURE.

A LARGE part of the October issue of the *American Journal of Diseases of Children* is devoted to the work of puericulture in France, which has recently been a chief concern of the Children's Bureau of the American Red Cross. To its agency is due in goodly measure the relief of the serious situations created among French mothers and children through the displacement of the northern population of France, the general lack of medical attention, and the shortage of appropriate food and fuel. To take a single example, the city of St. Etienne, with a pre-war population of 180,000, had 120 practising physicians; now the 250,000 inhabitants depend on the services of 14 practitioners. Most villages have been entirely without medical aid since the mobilisation. The American Red Cross has taken a large share in the management of the child *rapatrie*; it has devoted its best efforts to the reduction of infant mortality, it has promoted clinics for pre-natal care, it has given aid to expectant and nursing mothers and their nurslings, and worked out plans for protecting young girls and for promoting social hygiene. Educational work has been a feature of the campaign. An exhibit of child-welfare work staged at Lyons drew an attendance of more than 170,000 persons in three weeks. All available forces—Governmental, philanthropic, and medical—have united in a preventive educational campaign, the results of which are likely to be of permanent value.

"I.K." TREATMENT IN TUBERCULOSIS.

Dr. Carl Spengler, whose progress in tuberculin therapy has been punctuated by a series of preparations, such as P.T.O., A.T.O., P.E., T.B. vaccine, P. vaccine, K.V., W.V., has now published in conjunction with Dr. H. Wassitsch, in the *Correspondenz-Blatt für Schweizer Aerzte* for Nov. 9th, an analysis of 484 cases treated by "I.K." A critical survey of the already bulky literature about this preparation of Dr. Spengler's was recently published by Dr. N. Robertson,[1] whose own advocacy of the remedy was not enthusiastic, his attitude being rather one of benevolent neutrality. The 484 cases now under review were taken from Dr. Spengler's private ambulatory clientèle at Davos up to 1914. The patients were given a rapid course of "I.K." treatment, the duration of which was 90 to 150 days, with an average of 130 days. A comparison with the results obtained by two other institutions, the Deutsche Heilstätte, in Davos, and the Deutsches Haus, in Agra, shows that though the duration of treatment was considerably longer in these institutions (226 and 179 days respectively) the results were in several respects inferior. In the matter of disappearance of fever Dr. Spengler's series was, indeed, inferior to that of the Deutsche Heilstätte, but while only 23 per cent. of the patients ceased to expectorate tubercle bacilli in this institution, and only 14 per cent. in the Deutsches Haus, this success was achieved by 42½ per cent. of Dr. Spengler's patients. The comparison of these three series with each other seems open to criticism in many respects. Dr. Spengler's patients enjoyed a most varied treatment, that by "I.K." being extensively supplemented by graduated physical treatment, by iodine and organic blood preparations, and by symptomatic treatment—e.g., narcotics for coughs. On the other hand, the patients of the Deutsche Heilstätte series, though cited as a standard for comparison, appear to have undergone percutaneous "I.K." treatment. A more instructive feature of this paper than the many elaborate tables it contains is Dr. Spengler's retrospect of his long and varied tuberculin career. Starting as an enthusiastic advocate of Koch's tuberculin treatment, he came more and more to realise its limitations and dangers, and to foresee that, in spite of certain merits, tuberculin was unsuited for general use. Hence his efforts during the past 10 years to produce a "fool-proof" preparation suitable for almost indiscriminate wholesale use in tuberculosis. And, he maintains, these and other requirements are fulfilled by "I.K." The evidence, however, is not so conclusive as we are invited to believe.

[1] We reviewed this book in THE LANCET, 1918, i., 144.

THE RELEASE OF ALCOHOL AND GLYCERINE.

DURING the week the Ministry of Munitions notified that there are now supplies of alcohol available for industrial purposes, and that manufacturers should be able to obtain their requirements from the recognised sources without restriction, subject to the regulations of the Board of Customs and Excise. Methylated spirit is also again available for public use, and glycerine, it is announced, should be procurable in a few days in substantial quantities through the ordinary retail channels. This notification will remove many of the disabilities which manufacturers have experienced through the withdrawal of alcohol, and pharmacists through the withdrawal of glycerine. It is to be hoped that, for example, our research organisers will be given special facilities in regard to the use of alcohol, or they will remain at much disadvantage owing to the liberal allowance of this commodity given in continental countries. The "fine chemicals" industry is a case in point.

Sir George Newman's annual report as chief medical officer of the Board of Education will be studied with keen interest by educationists and hygienists alike. The School Medical Service is integrally part of the public system of education, and must remain so, however correlated it may come to be with other health services. The report appears at the moment when this correlation is being intensively discussed, and we reserve comment for a future number, after the many important points raised have been duly weighed.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—An ordinary meeting of this society will be held to-day, Friday, Dec. 6th, in the society's rooms, West London Hospital, at 8.30 P.M., when a paper will be read by Dr. F. J. McCann, entitled "Treatment of Some Common Ailments of Women."

PUBLIC HEALTH IN ENGLAND AND WALES:

REPORT FOR 1917 OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

IN issuing his recent report on public health in England and Wales Sir Arthur Newsholme takes occasion to review the history of sanitation since the inauguration of the Local Government Board in 1871. He acknowledges the improvement in the nation's health which has occurred in the last 48 years, and rightly attributes it to the labours of our urban and rural authorities. He is, however, careful to regard it as an incentive to efforts for further progress.

Lessened Mortality and Morbidity since 1871.

The extent of life-saving achieved in recent years appears from the official statement that "more than a quarter of a million fewer persons die annually than would die if the experience of the decennium 1871–80 continued. This implies an enormous annual saving of sickness and disability, of loss of wages, of the production of dependent widows and orphans, &c." It is notorious that sickness is one of the chief causes of poverty. About 30 per cent. of the paupers in receipt of relief are on the sick-list; and the Royal Commission on Poor-law affirms that at least half of the total cost of pauperism is swallowed up in direct dealings with sickness.

The saving of human life effected during recent years may be shown by contrasting the mortality at different ages in 1911–15 and 1871–80 respectively. At all ages up to the forty-fifth year there has been a reduction in the death-rate of from 40 to 50 per cent.; whilst at all other periods of life a substantial decline in the death-rate has been secured. By the use of life tables the improvement in life prospect may be demonstrated. For instance, we learn that between 1871–80 and 1910–12 there has been an increase in the average expectation of life equal to 10 years among males, and to nearly 11 years among females.

The average annual deaths in England and Wales during the period 1910–12 were fewer by 234,955 than they would have been had the population been subject to the death-rate of the period 1871–80. And the persons whose lives were saved each year had, in accordance with the life-table experience of 1910–12, the prospect of living in the aggregate 9,612,600 additional years of life. About 64 per cent. of this salvage is attributable to reduced mortality from acute and chronic infectious diseases, including the common infectious diseases, tuberculosis, and respiratory affections.

A Ministry of Health.

The war has aroused national interest in the public health and stimulated criticism of existing machinery for its promotion. Consequently the fact that a vast residue of avoidable loss of life and health still remains unredressed is very properly brought to the notice of the responsible authorities. In this connexion the medical officer discusses the merits of the public demand for the consolidation, in a central bureau, of all matters concerning public health and local government. The desirability of establishing a supreme authority on these lines is generally recognised, and has already been contended for in THE LANCET, as the only means of ensuring efficient sanitary reconstruction after the conclusion of peace.

The recent appointment of Sir Auckland Geddes to the presidency of the Local Government Board, and thereupon the prompt presentation to Parliament of a Bill for the creation of a Ministry of Health, are, therefore, matters of considerable significance.

Imperfect Statistics as to Incidence of Disease: The Birth- and Death-rates.

In comparing the vital statistics of the present with the past we are, unfortunately, limited to the evidence afforded by the Bills of Mortality. Of the misery and suffering (short of fatality) inflicted by the common infectious diseases there was no reliable measure prior to 1899, in which year notification became generally compulsory. And even now there is no record of the mass of non-infectious diseases "not unto death," which, nevertheless, entail terrible suffering among the poor. Nor are any statistics of the sickness treated in public institutions as yet available for the purposes of preventive action.

In the medical officer's judgment the best index of combined social and sanitary progress is the death-rate among young children, and he gives interesting tables showing the national gain in child-life.

In the year 1914 the *national birth-rate* was 23·8 per 1000 of the population, but in 1917 it had fallen to 17·8, the number of births in the later year being fewer than in the earlier by 210,756. The birth-rate of 1917 was only half that of 1874, and even in 1913 it was only one-third lower than in 1874. The problem, however, is not only one of birth-rate but also of survivors—in other words, of excess of births over deaths. A tabular estimate of this is now published, from which it appears that the survivors from the risks of early childhood bear a steadily decreasing proportion to total population, being at the rate of 27·1 per 1000 in 1874 and 19·6 in 1916. Unless compensating influences come into play the population, apart from immigration, will eventually become stationary, the birth-rate not more than counterbalancing the death-rate.

The *national death-rate* is subject to severe limitations in respect of further reductions, although these limitations are still remote. A large portion of the mortality in childhood, in adolescence, and in adult life is certainly preventable. Failing the recruiting of our population by births, the possibilities of compensation by a lowered death-rate are limited by natural laws, and the future must be regarded with apprehension. A stagnant population—if it be approached within the next 20 years—will have momentous effects in this country, and will imply also the possible failure to people Great Britain with a race having the ideals of our civilisation.

Maternity and Child Welfare.

Calculated in the usual way, infant mortality in England and Wales during 1917 was 97 per 1000 births, against 91 in 1916—the lowest rate on record. But it has been pointed out that the births in a given year do not fairly represent the numbers among whom infant deaths occur, because of the rapid decline of the birth-rate. And it is found that when allowance is made for this fact, and the deaths are calculated *on the living at ages under 1 year*, instead of on the births in each year, the infant death-rate becomes 94 per 1000 births in 1917, against 98 in 1916 and 104 in 1912. The fall in infant mortality is the more surprising in view of the increasing number of women with young children who have taken up industrial work.

The experience of 1917 and of recently preceding years encourages the belief that we may anticipate a reduction of infant mortality to 50 in 1000 births—a rate which has already been attained in some parts of this country, and in New Zealand as a whole. If a more rapid decline of infant mortality in the first month after birth can be secured in the next few years this encouraging figure may be surpassed. But this can only be attained by improving the welfare of mothers generally. The conditions of improvement are abstinence from excessive fatigue in pregnancy and during the period of breast-feeding, and the provision of skilled medical care and nursing for both mother and offspring. For the attainment of these ends the Board's grants in aid of such objects are available.

Continued Decrease in Enteric Fever.

With reference to the medical officer's opinion that the best index of sanitary progress is furnished by the extent of enteric fever prevalence, we note that the decline in this disease experienced in recent years was continued in 1917, the number of notified cases of enteric fever being fewer by 963 than in the year preceding. Whilst recognising this success, it must be remembered that the demands of military service have entailed the withdrawal from civil life of a large number of men at ages of special susceptibility to enteric infection. Nevertheless, there are reasons for believing that the recorded fall is a real one.

The nature and variety of the circumstances attending enteric fever outbreaks are constantly being investigated by the Board's medical staff, and in this report attention is specially directed to a recent outbreak involving 133 cases in the Bedlingtonshire Urban District of Northumberland. This attack, which affected 11 villages, was traced by Dr. J. R. Hutchinson to the water-supply from the river Blyth, which had become specifically contaminated by the manuring of riparian land with midden privy refuse. The river water had been treated by sand filtration. The working of the filter was essentially faulty, and there was no

appreciable storage of the water either before or after filtration. This incident is valuable as showing that filtration alone cannot be relied on to render harmless specifically infected drinking water. In concluding his instructive report on this serious outbreak Dr. Hutchinson remarks that the use of midden contents for the manuring of agricultural land on the river bank is a process which has gone on week by week for more than 30 years, and is the only operation of etiological significance which is continually being repeated. It is reflected, he holds, in the recurring small explosive outbreaks of enteric fever which are to be found every year in the Bedlingtonshire District, and in the present year in the larger outbreak.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

The Statistical Report on the Ordinary Expenditure of 108 London Hospitals for the Year 1917 (issued at 1s. by Messrs. Spottiswoode, Ballantyne, and Co., London) indicates a great increase of the work of the London hospitals during the year under notice, with a corresponding increase in expenditure. This, as the honorary secretaries of the Fund point out, constitutes an enlarged and very urgent demand upon the voluntary subscriptions of the charitable public, and renders it more than ever important that this Fund and the Hospital Saturday and Hospital Sunday Funds should be enabled to increase their grants. London provides a total of 11,729 beds in average daily occupation, the total number of in-patients admitted during the year 1917 being 147,598, while 1,152,022 attendances were recorded in the out-patient departments. Out of the total of 147,598 in-patients, 28,031 were naval and military patients treated by understanding with the authorities and representing an average for the whole year of 3656 occupied beds, or 31 per cent. of the total average of occupied beds. One result of this has been the reduction of the number of beds available for civilian patients by 1659. The total ordinary expenditure during the year, including maintenance, administration, rent, rates, and taxes, but excluding capital expenditure, interest on borrowed money, and contributions to the maintenance of convalescent homes and country branches, amounted to £1,719,030. The receipts from the authorities for naval and military patients were £268,960. After deducting this from the total outlay there remains £1,450,070 to be met out of the normal sources of hospital revenue. From a comparison of the figures with those of last year the conclusion is drawn that the addition to the net annual expenditure has been caused almost entirely by the rise in cost of all items of maintenance. The report sets out in tabular form general particulars of work and accommodation of the various hospitals, together with an analysis of the cost of working.

URBAN VITAL STATISTICS.

(Week ended Nov. 30th, 1918.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality was 36·5, against 38·7 and 36·3 per 1000 in the two preceding weeks. In London, with a population slightly exceeding 4,000,000 persons, the death-rate was 32·8 or 4·0 per 1000 below that recorded in the previous week; among the remaining towns the rates ranged from 8·3 in Bootle, 12·3 in Cardiff, and 12·8 in Oxford, to 77·7 in Stockton-on-Tees, 78·6 in Grimsby, 83·0 in Walsall, 86·7 in South Shields, 91·2 in Sunderland, and 100·2 in Nottingham. The principal epidemic diseases caused 220 deaths, which corresponded to an annual rate of 0·7 per 1000, and included 60 from infantile diarrhœa, 51 from measles and from diphtheria, 35 from whooping-cough, 17 from scarlet fever, and 6 from enteric fever. Measles caused a death-rate of 2·8 in Wolverhampton, and diphtheria of 1·7 in St. Helens. The deaths from influenza numbered 5119, against 5106 in the previous week, and included 942 in London, 388 in Birmingham, 374 in Manchester, 272 in Nottingham, 166 in Sheffield, 151 in Sunderland, 120 in Bradford, and 118 in South Shields. The 1136 cases of scarlet fever and 1014 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital were 13 and 48 below the respective numbers remaining at the end of the previous week. The causes of 117 deaths in the 96 towns were uncertified, of which 23 were registered in Birmingham, 19 in Nottingham, 10 in South Shields, and 6 each in Liverpool and Sunderland.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual rate of mortality was 23·7, against 23·9 and 24·3 per 1000 in the two preceding weeks. Of the 1094 deaths from all causes, 47 were classified to influenza, which was also stated as a contributory cause in 212 deaths classified to other diseases; in the previous week these numbers were 29 and 252 respectively. The 465 deaths in Glasgow corresponded to an annual rate of 21·8 per 1000, and included 5 each from diphtheria and infantile diarrhœa, 4 from whooping-cough, and 1 each from measles and scarlet fever. The 206 deaths in Edinburgh were equal to a rate of 32·2 per 1000, and included 4 from whooping-cough, 3 from diphtheria, and 1 from infantile diarrhœa.

Irish Towns.—The 199 deaths in Dublin corresponded to an annual rate of 26·0, or 5·9 per 1000 below that recorded in the previous week, and included 49 from influenza and 1 each from whooping cough, diphtheria, and infantile diarrhœa. The 463 deaths in Belfast were equal to a rate of 61·4 per 1000, but included no deaths from the epidemic diseases other than influenza.

The War and After.

THE CASUALTY LIST.

THE names of the following medical officers appear among the casualties announced since our last issue:—

Previously reported Missing, now reported Presumed Killed.

Capt. H. W. White, R.A.M.C., qualified in Ireland in 1910, and at the time of joining up was assistant medical superintendent at the Paddington Infirmary, London. Previously he had held appointments at the Long Grove Asylum, Epsom, and at the Metropolitan Hospital.

Died.

Major H. W. Sykes, R.A.M.C., was educated at Durham and qualified in 1909. Prior to joining the R.A.M.C. he was on the medical staff of the Randfontein Estates Gold Mining Co. in the Transvaal, and was previously medical superintendent at Grey's Hospital, Pietermaritzburg.

Capt. B. W. Cherrett, East African Medical Force, was a student at St. Bartholomew's Hospital, London, and qualified in 1906. He held an appointment at Plaistow Hospital, and prior to going on service was medical officer of health at Nairobi, East Africa, where he died of pneumonia following influenza.

Capt. G. L. Maule, R.A.M.C., was educated at Shrewsbury and at Cambridge, and qualified in 1916. Prior to joining the R.A.M.C. he was for some time house surgeon at the Manchester Infirmary.

Capt. F. S. Green, R.A.M.C., qualified at Manchester in 1911, and prior to joining the R.A.M.C. was in practice at Lowton, Newton-le-Willows, Lancs.

Capt. S. W. Matthews, R.A.M.C., qualified in Ireland in 1913, and prior to joining the R.A.M.C. was in practice at Wicklow.

Surg. Lieut. W. H. Pickup, R.N., was educated at Birmingham University, and qualified in 1915. He joined the Navy shortly afterwards, and died of pneumonia following influenza.

Capt. W. E. Paterson, New Zealand M.C.
Major R. C. Irvine, R.A.M.C.
Capt. C. R. Lister, Australian A.M.C.
Surg. Sub-Lieut. E. A. Pearson, R.N.V.R.
Surg. Sub-Lieut. T. Carlyle, R.N.V.R.

Wounded.

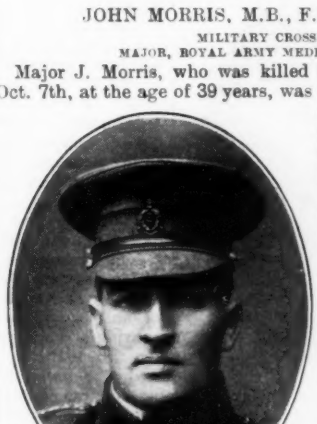
Major H. D. Lane, M.C., R.A.M.C.
Capt. H. R. Lawrence, South African M.C.
Major F. Henderson, M.C., R.A.M.C.
Capt. G. W. Mitchell, R.A.M.C.
Lieut. R. R. MacGregor, R.A.M.C.

OBITUARY OF THE WAR.

JOHN MORRIS, M.B., F.R.C.S. EDIN.,

MILITARY CROSS,
MAJOR, ROYAL ARMY MEDICAL CORPS.

Major J. Morris, who was killed in action in France on Oct. 7th, at the age of 39 years, was fourth son of T. Morris, J.P., of Oswestry. He graduated M.B., Ch.B. at Edinburgh University in 1904, after which he held posts as house surgeon at Denbigh Infirmary and assistant surgeon at Dinorwic Quarries Hospital, Llanberis. After obtaining the F.R.C.S. Edin. in 1909 he settled in practice at Hyde (Cheshire), where he became police surgeon and recruiting medical officer. In 1912 he joined the Territorial Force and was mobilised on August 4th, 1914, going to France with the Cheshire Regiment in the following November. In 1916 he was awarded the Military Cross, and his superior officer writes of him as a valuable surgeon. Major Morris leaves a widow and two children.



LOUIS P. DEMETRIADI, M.D. DURH., F.R.C.S. EDIN.,

LIEUTENANT-COLONEL, ROYAL ARMY MEDICAL CORPS (T.).

Lieutenant-Colonel L. P. Demetriadi, who died at Southport on Oct. 26th, was 56 years of age. He was educated at Manchester Grammar School and King's College, London, and later attended Leeds University, taking the degrees of M.D. Durh., F.R.C.S. Edin., and D.P.H. He was house surgeon to the Huddersfield Royal Infirmary, and later carried on general practice in the town, retiring in 1912. For more than 20 years he lectured and trained classes for the St. John Ambulance Association, and acted as judge at various railway and colliery competitions. In 1916 he was made an honorary associate of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England. In 1897 he joined the 2nd Volunteer Battalion, Duke of Wellington's Regiment, and rose to the senior rank in its medical service. When the West Riding Territorial Division mobilised in August, 1914, he proceeded with it to France in April, 1915, taking charge of the West Riding (49th) Casualty Clearing Station, where he remained for two years, until his health gave way. Returning to home service, he received the Territorial Decoration, and then had to relinquish his commission owing to continued ill-health. He was twice mentioned in despatches. One of his superior officers writes of Colonel Demetriadi: "He was one of the most helpful officers I had working with me, and I knew that nothing was too difficult for him to carry out." He was active in the discharge of his civic duties, both as a member of the local municipal council and as a churchwarden. He married a daughter of the late Dr. J. R. Parke, of Tideswell, who survives him.

DIGBY BURNS, L., L.M. R.C.P. & S.I.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain D. Burns, who lost his life on the ill-fated *Leinster* while returning to duty on Oct. 10th, was youngest son of John William and Elizabeth Burns, of Dublin. He was educated at Mountjoy College, Dublin, and at the Royal Colleges of Physicians and Surgeons, obtaining the conjoint Irish diplomas in 1912. Shortly afterwards he was appointed house surgeon to Bootle Borough Hospital, where his personal qualities made him a popular colleague. After this preparation for general practice in 1913 he settled down at Orrell Park, Liverpool, and had acquired a considerable practice when in 1916 he received a commission in the Royal Army Medical Corps. His captaincy was conferred in the following year. His commanding officer writes of Captain Burns as the life of the little community in which he was placed. "His never failing good humour and kindly disposition endeared him to us all."

Captain C. D. HAMILTON, Lieutenant R. H. LALANDE, and Lieutenant W. MCL. MCLEOD, all C.A.M.C., died on the voyage from Canada to England between Oct. 6th and 10th.

CHARLES WILLIAM DUGGAN, M.B., C.M. EDIN.,

MAJOR, ROYAL ARMY MEDICAL CORPS.

Major C. W. Duggan, who lost his life on Oct. 10th, at the age of 52 years, by the sinking of the *Leinster*, was only son of the late William Nelson Duggan, M.D., of Edinburgh, Major, A.M.S. He was educated at Daniel Stewart's and George Watson's Colleges and graduated at Edinburgh University in 1887, was assistant to the professor of medicine, and did some research work on the coagulation of albumen. On leaving Edinburgh he studied at Vienna, Prague, and Paris, and in 1891 joined the Army Medical Staff, as it then was. He saw service on the West Coast of Africa, taking part in the expedition against the Sofas, for which he obtained the medal and clasp. He was able to keep up his research work, and in 1897 contributed a paper to the Medico-Chirurgical Society of London on the parasite of malaria. Later he served in Gibraltar, India, and Burma. He was gazetted Major in 1903 and retired from the Service in 1909, when he was appointed in charge of the Military Hospital, Lincoln. On the outbreak of the war his hospital was enlarged to accommodate B.E.F. patients, giving him the opportunity of thoroughly testing the ichthyol and glycerine treatment of gunshot wounds, which he advocated in a number of articles in various medical papers. He was mentioned in despatches in 1917. His death occurred on his return from a court-martial at Cork.

Major Duggan is described as one who was always devoted to the welfare of others, and in him the Lincoln depôt has lost a good friend. He married in 1895 Crystal, youngest daughter of the late W. H. Maunde, of Worcester, and leaves three children.

BENJAMIN HILTON LEIGH, L.R.C.P. EDIN.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain B. H. Leigh, who died on Oct. 9th, at the age of 51 years, from an illness contracted on foreign service, was eldest son of the late H. H. Leigh, of Piura, Peru. He came to this country at the age of 12 and was educated at Prior Park College, Bath. Later he entered the School of Medicine at Owens College, Manchester, taking the triple qualification at Edinburgh in 1896. For some years he was in practice at Southend-on-Sea, until in April, 1915, he obtained a commission in the Royal Army Medical Corps. He went overseas in the following August, first to Malta and afterwards to Salonika, being invalided back to this country last April. His death occurred in the Manor War Hospital at Epsom.

Captain HARRY DUNLOP, C.A.M.C., who died of wounds on Nov. 2nd at the age of 35 years, was born at Kingston, Ontario. He graduated in medicine at Queen's University, Kingston, came to England in September, 1916, and served as M.O. in units in England until November, 1917, when he went to France with the 102nd Battalion. He was attached to this unit when he received the wounds of which he died.

Captain NEVILLE HALL LITTLE, C.A.M.C., who died of wounds on Oct. 29th at the age of 25 years, was a native of Trenton, Ontario, and graduated in medicine at the University of Toronto in 1916. He came to England in April, 1917, was sent to France in July, 1918, and served for three months with a general hospital and later with a field ambulance.

Captain CHARLES HENRY VERNON SMITH, C.A.M.C., who died on Nov. 1st at the age of 22 years, was a native of Oxford, Ontario, and graduated in medicine at McGill University in 1914. He came to England in March, 1916, and went to France in July to serve with a general hospital and afterwards as regimental M.O. until he was invalided to England.

CASUALTIES AMONG THE SONS OF MEDICAL MEN.

The following additional casualties among the sons of medical men are reported:—

Capt. G. L. Maule, R.A.M.C., died at Bagdad of pneumonia, only son of the late Dr. W. Maule, of Birkdale, Lancs.

Second Lieut. A. Irving, Sikhs, killed in action in Mesopotamia, youngest son of Dr. M. H. C. Irving, of the British Guiana Medical Service.

Second Lieut. R. R. O'Conor, Coldstream Guards, died in England of pneumonia, younger son of Dr. J. O'Conor, of the British Hospital, Buenos Aires.

Surg. Lieut. W. H. Pickup, R.N., died in England of pneumonia following influenza, second son of Dr. W. J. Pickup, of Coventry.

Capt. L. F. H. Beach, D.S.O., Queen's Regiment, died of broncho-pneumonia, son of Dr. F. Beach, of Coulsdon, Surrey.

Lieut. A. J. T. Eccles, M.C., R.E., died of influenza, third son of Dr. G. T. Eccles, of Hove, Brighton.

MENTIONED IN DESPATCHES.

In a despatch, dated August 20th, 1918, received from the Commander-in-Chief in India, the following reference is made to the medical services:—

The sick and wounded despatched to India from oversea theatres of war, as well as those invalided from Waziristan and other theatres of frontier operations, have been adequately and sympathetically cared for. A number of war hospitals have been formed, other hospitals have been expanded and improved, and ruling chiefs and others have generously provided hospitals and convalescent homes in Bombay and elsewhere, in which everything possible has been done for the comfort of the sick and wounded. The satisfactory health of the troops, both in the field and in India, affords striking testimony as to the value and efficacy of these measures and the skill, forethought, and administrative capacity of the medical services.

Amongst the list of mentions in connexion with the despatch are the names of the following medical officers:—

Lt.-Col. J. M. Crawford, O.B.E., I.M.S.; Maj. G. I. Davys, I.M.S.; Maj. H. Halliday, I.M.S.; Lt.-Col. T. Jackson, I.M.S.; Col. W. E. Jennings, I.M.S.; Maj. J. C. Kennedy, R.A.M.C.; Lt.-Col. W. G. Liston, C.I.E., I.M.S.; Col. W. Molesworth, C.I.E., I.M.S.; Maj. G. F. Rugg, R.A.M.C.; Col. A. W. Sheen, R.A.M.C (T.F.); Maj. A. E. Walter, I.M.S.; Lt.-Col. C. F. Wanhill, R.A.M.C.; Lt.-Col. J. W. Watson, I.M.S.

FOREIGN DECORATIONS.

French.

Croix de Guerre.—Capt. (acting Maj.) R. P. Ballard, M.C., R.A.M.C., Spec. Res.; Temp. Capt. (acting Maj.) P. Carney, M.C., R.A.M.C.; Capt. (acting Maj.) D. Dougal, M.C., R.A.M.C., Spec. Res.; Temp. Capt. (acting Maj.) J. A. Doull, R.A.M.C.; Lt.-Col. (temp. Col.) F. G. Fitzgerald, D.S.O., R.A.M.C.; Lt. W. A. Fraser, R.A.M.C., Spec. Res.; Temp. Capt. L. Gameson, R.A.M.C.; Temp. Capt. J. F. McLay, R.A.M.C.; Temp. Capt. S. A. W. Munro, R.A.M.C.; Capt. (acting Lt.-Col.) E. Percival, D.S.O., M.C., R.A.M.C.; Temp. Capt. D. J. Stokes, R.A.M.C.; Temp. Capt. (acting Lt.-Col.) R. Svensson, M.C., R.A.M.C.; Capt. (acting Lt.-Col.) F. Worthington, D.S.O., R.A.M.C.; Maj. (temp. Lt.-Col.) H. A. Davidson, D.S.O., R.A.M.C.; Maj.-Gen. J. B. Wilson, C.B., C.M.G., A.M.S.

Belgian.

Ordre de Léopold.—Chevalier: Capt. A. R. Cook, Uganda M.S.
Ordre de la Couronne.—Officier: Capt. E. L. Fyffe, R.A.M.C.

Italian.

Order of the Crown of Italy.—Officer: Lt.-Col. (acting Col.) H. Hewetson, D.S.O., R.A.M.C. Cavalier: Temp. Capt. J. H. Peek, R.A.M.C.
Croce di Guerra.—Temp. Capt. A. F. Readdie, R.A.M.C.
Bronze Medal for Military Valour.—Capt. (acting Maj.) A. E. P. McConnell, M.C., R.A.M.C. (T.F.).

Egyptian.

Order of the Nile.—2nd Class: Surg.-Gen. Sir J. Maher, K.C.M.G., C.B. 3rd Class: Lt.-Col. H. W. Thomson, R.A.M.C.

Portuguese.

Red Cross Medal.—2nd Class: Maj. (temp. Lt.-Col.) H. G. Pinches, R.A.M.C.

Japanese.

Order of the Sacred Treasure.—2nd Class: Surg. Rear-Admi. P. B. Handyside, C.B.

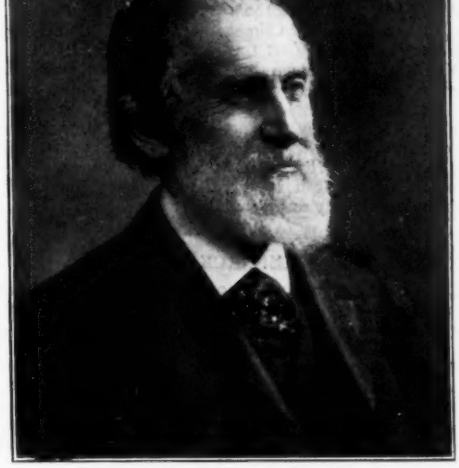
Obituary.

SIR HERMANN WEBER, M.D. BONN, F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO THE GERMAN HOSPITAL, LONDON, AND TO THE ROYAL NATIONAL CONSUMPTION HOSPITAL, VENTNOR.

As we have already announced, Sir Hermann Weber, who may be regarded as the founder of the science of climatotherapy, died at his residence, 10, Grosvenor-street, at the advanced age of 95, on Nov. 11th. Born of a German father and an Italian mother, his sympathies were entirely on the side of England, his adopted country, where he worked for 75 years; his younger son, Lieutenant-Colonel Weber, D.S.O., R.F.A., and all his grandsons of military age, five in number, have fought in the war, and one of these laid down his life at Ypres at the beginning of hostilities.

Hermann Weber commenced his medical studies at Marburg, whence he proceeded to Bonn, where he graduated M.D. in 1848. In his student days at Marburg he met Carlyle; while his knowledge of the works of Shakespere and his determination to read them in the original brought him into social relations with English visitors at Bonn, among them being Sir James Simpson. A strong feeling in favour of British sociology was thus created, and Weber applied for and obtained the post of house physician to the German Hospital at Dalston. The many friends that he made there, the acquisition of a private practice, membership of the now



SIR HERMANN WEBER.

defunct Society for Clinical Observation, to which much medical progress was owing at the time, and finally the marrying of an English wife in 1854 were all factors in the decision to make England his home. He accordingly entered as a student at Guy's Hospital in order to obtain an English qualification, and in 1855 became a Member of the Royal College of Physicians of London and shortly afterwards a Fellow of that body.

All idea of returning to Germany now disappeared from his mind, and from a small clientèle of mostly foreign patients Weber's practice soon extended into English circles. His advocacy of the high valleys of the Engadine as health resorts in many conditions of debility added to his reputation, and the return from those climates of distinguished patients in renewed vigour proved the correctness of his judgment. Himself an ardent mountain climber—in his eightieth year he traversed the Diavolezza—and knowing the Alps thoroughly, his selection of spots where graded exercise could be combined with quiet and beautiful environment was unerring. Among famous men whose improvement in health under Weber's care gave public advertisement to the claims of climatotherapy may be mentioned

five Prime Ministers—namely, the Lord Derby, Earl Russell (Lord John Russell), Lord Salisbury, Lord Rosebery, and Sir H. Campbell-Bannerman—and he was frequently consulted on the choice of a health resort for members of the Royal Family. His professional status was recognised by the Royal College of Physicians, where he served on the Council for five years, being Censor in 1879 and 1880. In 1899 he received the honour of knighthood. Weber's long and distinguished association with life assurance work formed another claim to public recognition. He was medical officer to the central office of the North British and Mercantile Insurance Company for many years, was President of the Life Assurance Medical Officers' Association from 1897 to 1899 inclusive, and his presidential address on Heredity in Relation to Life Assurance showed considerable prevision in respect of matters that have since become subjects for more elaborate discussion and arrangement.

Sir Hermann Weber actually retired from practice at the age of 80, but for the 15 years which remained to him he continued to take the keenest interest in his profession. He contributed to medical periodicals and wrote a work on "Means for the Prolongation of Life," the fourth edition of which was reviewed in these columns recently. The value of his teaching here was certainly well illustrated in his own case, for at the age of 95 he was able to walk on an average 50 miles a week regardless of weather. Of his other literary work the following may be mentioned in illustration of the duration of his activities: "Notes on the Climate of the Swiss Alps" (1864); Klimato-Therapie in "Ziemmsen's Handbook of General Therapeutics" (1880); "Hygienic and Climatic Treatment of Phthisis" (founded on the Croonian lectures of the Royal College of Physicians of London for 1885); "Treatment of Phthisis by Residence in Elevated Regions"; articles in Quain's "Dictionary of Medicine" and Allbutt and Rolleston's "System of Medicine"; with Dr. Parkes Weber "Climatotherapy and Balneotherapy," third edition, 1907 (THE LANCET, Feb. 16th, 1907).

Numismatics became his hobby in later years, and he became an accepted authority on Greek coins. Visits to Greece, Sicily, Tunis, Egypt, Asia Minor, and Palestine enriched his collection and at the same time helped him to confirm his view and gather further information on climatology. During the last weeks he had obviously been losing strength rapidly, as he himself knew. But the end came suddenly and peacefully.

JOHN BIERNACKI, M.D. GLASG.

Dr. John Biernacki, who died on Oct. 11th, was a graduate of the University of Glasgow (M.B. 1889, M.D. 1898) and a licentiate of the three Scottish Colleges. Throughout almost the whole of his professional life he was concerned with the study and treatment of the ordinary infectious diseases, and at the date of his death he had been for some 23 years physician-superintendent of the Plaistow Fever Hospital. In the district served by the hospital his name has long commanded public confidence and gratitude, and his immediate colleagues were well aware that in his own department of practice he spoke as a clinical authority of the first order. Had he lived, a wider teaching would probably have been open to him, for he had accumulated many case-records and studies, and he always intended to found on these a systematic exposition of his experiences and conclusions. Something in this direction he did, indeed, accomplish, as may be seen in a lucid chapter on "The Infective Diseases of Temperate Climes" in Dr. Bain's "Text-book of Medical Practice." But he had much more to say and he waited for a quieter day in which to say it. Leisure, however, came to him in scanty supply, and he was ever restrained by a disinclination to publish any writing until by repeated review and self-criticism he had at least approached his own somewhat austere standard of worthiness. The artist in some measure hindered the teacher, and medicine is the poorer for the restriction. In his clinical and organising work Biernacki was severely practical, thorough, and business-like—a careful and exact observer and a thoughtful and painstaking student. That in addition he was possessed by wide intellectual and artistic interests was hardly known save to a few intimate friends, for his natural habit of silence and reserve hid not only the range of his thought but also the original quality of his mind and his capacity for tenderness and emotion. It was only in the intimacy of close and affectionate comradeship that these qualities came to the surface and the full measure of the man was known and appreciated. In such a circle his name has an abiding place as a companion whose thought touched all problems and as a friend ever ready for loyal and generous service. Here certainly he has left memories which enrich and strengthen life.

C. O. H.

ALFRED ELLINGTON STANSFELD, M.D. CAMB., F.R.C.P. LOND.,

PHYSICIAN, METROPOLITAN HOSPITAL; SENIOR DEMONSTRATOR OF PATHOLOGY, ST. BARTHOLOMEW'S HOSPITAL.

MEDICINE has suffered a great loss by the early death, on Nov. 25th, from influenzal pneumonia, of Dr. A. E. Stansfeld.

Alfred Ellington Stansfeld was born in Stoke Newington on Dec. 11th, 1882, educated at the Central Foundation School, Cambridge, and held a scholarship at St. John's College from 1902-7. He took a first class in Part II. (Physiology) of the tripos, and going on to St. Bartholomew's Hospital, London, obtained an entrance scholarship and most of the other distinctions there available in medicine. He took the M.B. Camb., and became M.R.C.P. in 1911, the M.D. Camb. following in 1915. After holding resident posts at St. Bartholomew's he became casualty physician and then assistant demonstrator of pathology, as well as physician to the Metropolitan Hospital. His election to the F.R.C.P. occurred this year.

Stansfeld possessed not merely a high degree of intellectual ability, but close powers of observation and an unlimited capacity for hard work—a combination which was already

DR. A. E. STANSFELD.

beginning to bring him considerable success in clinical medicine. Added to this, he was an excellent and popular teacher, always ready to put aside his own work in order to help a student over some difficult point. He was, moreover, a good organiser, and more than one hospital had to thank his ingenuity and tact for arrangements enabling work to be carried on during the war. Although his own bent was clinical medicine, he had devoted much of his attention during the past six or seven years to pathology, occupying the post of demonstrator in this subject at St. Bartholomew's Hospital. Only the trying duties of routine work prevented him from following out researches on anaphylaxis and kindred subjects which he had commenced with every prospect of success. The apparatus which he had devised for the transfusion of blood[1] proved remarkably useful, and his services in this direction were much in request. At the outbreak of the war he was by no means averse from military service, but yielded to the representations that some few must remain to carry on the work and teaching of the hospital. This duty he faithfully carried out, and the services he thus rendered

[1] THE LANCET, 1918, i., 334.

were truly as valuable as any he could have offered by taking a commission. Two hospitals claimed his time, St. Bartholomew's and the Metropolitan, and to both he devoted unstinted time and labour, undertaking a part of the military work at the Metropolitan in addition to his ordinary routine.

Stansfeld was a robust man, but such toil as he underwent during the war cannot have been without effect upon the strongest constitution, and probably played a part in the issue of his fatal illness. His loss will be deplored not only by the institutions with which he was connected but by a wide circle of friends and colleagues. His loyalty as a colleague and his devotion as a friend were conspicuous features in his character. The thronged memorial service at St. Bartholomew's on Nov. 28th was a testimony to the genuine regard and affection in which he was held.—F. W. A.

THE Rev. DANIEL MCNEILL, M.D., of Orkney, whose death occurred on Oct. 15th at the age of 78, was born at Drumlemble, Argyllshire. Educated at the University of Glasgow, he combined the studies of medicine and theology, with a view to entering the foreign mission field; but on a chance visit to the Orkneys he decided, at the earnest request of the people, to settle on these remote islands, where for half a century he devoted himself to the care of the bodies and souls of his community. Since the war he had been living in nominal retirement in Edinburgh, but had been doing as much medical and clerical work as his years allowed. He died literally "in harness." Dr. McNeill was a man of many gifts—too versatile, indeed, to make a notable success in any one line; but his life was as useful as it was full and varied. His abounding sympathy, his kindliness, and his humour endeared him to the people to whom his life was dedicated. Of his family of six sons and six daughters, four sons and three daughters are graduates or alumni of Glasgow University. Two sons gave their lives in the war; one is in Palestine; another, Captain D. Dewar McNeill, R.A.M.C. (T.), is serving in France; and a daughter, Dr. Mary McNeill, is with the Scottish Women's Hospital at Salonika.

Medical News.

BRITISH MUSEUM (NATURAL HISTORY): SWINEY LECTURES.—A course of 12 illustrated lectures on Man and His Ancestry is being delivered by Dr. Thomas J. Jehu in the lecture theatre of the Royal Society of Arts during December and January, at 5.30 P.M., beginning Dec. 10th. Details are given in the Diary. Admission is free.

THE BELL FUND.—Dr. S. A. Kinnier Wilson asks us to acknowledge a donation of £3 3s. to the Dr. J. H. Bell Fund from Temporary Surgeon Paul C. Gibson, R.N. Subscriptions should be sent to Dr. Wilson, at 14, Harley-street, London, W. 1.

INFLUENZA IN BELFAST.—The influenza epidemic still prevails in Belfast and surrounding districts, perhaps to a less degree among the better classes; but, on the other hand, it has extended widely among the poor, though even among them older people seem to be less prone to attack. The mortality for the week ending Nov. 23rd was, in Belfast, 65 per 1000, and of the deaths which occurred over 250 were due to influenza. The epidemic has demonstrated three things—the absence of any known reliable treatment, specific or preventive; the hopeless failure of public health measures to have the least effect in combating the spread of the disease; and the want of any central organising authority (such as the Local Government Board in Dublin or local bodies) to deal with a confessedly difficult problem. The latest measure to be adopted by the Public Health Committee of the city of Belfast on Nov. 28th was to issue an Order by which the primary schools are (owing to the continuance of the influenza epidemic) to be kept closed until a date to be fixed by the committee after the Christmas holidays, a measure which will only tend to drive the young people affected into the kinemas, which are not closed. At one of the Parliamentary election meetings—for the Ormeau division—a speaker roundly blamed the city council for their action in closing Sunday schools and in leaving the kinemas open. It is only fair to say that the public health authorities of Belfast have no power to close places of amusement, and that the medical officer of health has been instructed by the Health Committee to communicate immediately with the Local Government Board with reference to obtaining compulsory powers to close such places of public entertainment. Reports from the various districts of Ulster show that so far there is very little abatement in the influenza epidemic.

Correspondence.

"Audi alteram partem."

EPSOM COLLEGE.

To the Editor of THE LANCET.

SIR,—It is again my duty, as treasurer of Epsom College, to make an earnest appeal for new subscriptions, in order that the Council may be able to maintain undiminished the work of the Royal Medical Foundation attached to the College.

As your readers will recollect, this work consists of two branches—viz., pensions of £30 a year are given to 50 aged and impecunious medical men or their widows, and an education of the highest class at Epsom College is provided for 50 necessitous sons of medical men, who also receive gratuitously maintenance, clothing, and pocket money.

In consequence of the numerous calls in connexion with the war, in addition to the increase of taxation and the general rise in prices, many annual subscriptions have been withdrawn, whilst others have been reduced in amount.

Applications for assistance are being received as a direct consequence of the war, and already the Governors have elected as Foundation Scholars (1) the son of a medical officer who was killed in action on the *Good Hope* in 1914; and (2) the son of another medical officer who was killed in action in 1917. Furthermore, Salomons Entrance Scholarships of £50 a year have been awarded by the Council (1) to the son of a medical officer who was killed when the *Royal Edward* was torpedoed in 1915; and (2) to the son of another medical officer who lost his life when the *Arcadian* was torpedoed in 1917.

I earnestly appeal to those of your readers who already support the Foundation to increase their contributions, at least for a few years, if possible, and I urge upon those who do not at present subscribe annually to do so. To the latter I wish especially to make this request at a time when so many members of our profession, their widows, or their orphans, are in need, and I beg of them to be so good as to respond sympathetically to this appeal at once. A sum of not less than £4500 must be procured in annual contributions if the numbers of beneficiaries are to be maintained.

I am, Sir, yours faithfully,

HENRY MORRIS,
Honorary Treasurer of Epsom College and its Royal Medical Foundation.

Office: 37, Soho-square, London, W., Nov. 29th, 1918.

A NATIONAL TRIBUTE TO VOLUNTARY AMBULANCE WORKERS.

To the Editor of THE LANCET.

SIR,—In your annotation on "first-aid in ordinary life" (Nov. 30th) you rightly emphasise the importance of the kind of work which is being done by the College of Ambulance. It is impossible to say how far the advent of peace may cripple this work by reducing the attendance at the classes, but the firm intention of the council is to continue the teaching carried on there; it is hoped in coöperation with the important bodies whose function is the practical application of first-aid in peace and war.

There has been a great demand for the instruction which the college supplies during the war, and it has therefore been almost self-supporting, but this cannot be expected to continue. The council are, therefore, appealing to the public for funds in order that the college may have an assured income at least sufficient to ensure adequate remuneration for its teaching and official staff. It may be hoped that in gratitude for what has been done and in its own interest the public will respond generously.

I am, Sir, yours faithfully,

RICKMAN J. GODLEE,
President of the College of Ambulance.

Wimpole-street, W., Dec. 3rd, 1918.

To the Editor of THE LANCET.

SIR,—The magnificent work accomplished during the war by the voluntary ambulance workers in the field, along the lines of communications, and at the base, at sea, on railways, and in hospitals at home stands out as one of the most prominent features of national accomplishment during

the past four years. Men and women have alike contributed; they have each in their own spheres filled the great gap in the war machine. They began to organise and to train for their special work before the war, for as long ago as 1908 the first V.A.D. was formed in London, so that when war was declared there was no difficulty in extending the work upon this well-founded basis.

After undergoing training for their duties they came forward in their tens of thousands to offer their services. No task was too hard, no duty too menial, no risk too great for these men and women to undertake. By day and night, in the stations and hospital wards, in the scullery, on all fronts, from France to Mesopotamia, these voluntary workers have brought credit and lasting fame to their country and themselves. Soldiers and civilians would combine in showing their appreciation were the means of doing so brought before them. How better can that be done than by establishing centres throughout the country where the work to which they have devoted themselves can be continued and perfected? Ambulance is for peace-time as well as for war.

War duty is but an ephemeral portion of ambulance work; civil ambulance is for all time. Modern military ambulance was organised in Germany, but civil ambulance was first instituted in Britain, and its performance entrusted to the public to accomplish. It is not taught in our medical schools; it cannot be satisfactorily taught except in schools technically equipped for this purpose. The College of Ambulance, founded in 1914, is the only school of the kind in the Kingdom; it is a model for other centres to go by.

Since 1914 25,000 people have been trained there, and the college has established its usefulness and proved that the public appreciate its teaching. For the sake of the public good, and as a tribute to the men and women who have given their time, and in many cases their lives, for the cause of ambulance, let us consecrate a building and perpetuate the work they have at heart and where ambulance can be taught worthy of the great cause. The college gives technical training, open to all teachers and students of the ambulance societies of the nation.

I am, Sir, yours faithfully,

JAMES CANTLIE.

College of Ambulance, 3, Vere-street, London, W. 1, Dec. 2nd, 1918.

TREATMENT OF INFLUENZA.

To the Editor of THE LANCET.

SIR,—In the face of so kindly a reference to my article upon this subject in your issue of Nov. 23rd, it seems ungracious to point out that Dr. C. W. Vining (THE LANCET, Nov. 30th) has read the letter of my contribution rather than its spirit. And in one particular he has misread the letter, I fear with malice aforethought, since I mentioned the "turtle soup" to condemn, and not to advise, it! The spirit of my article surely was that certain simple principles should be followed, by the doctor and nurse if available, and if not, then by the friends under the doctor's instructions. Even "the harassed doctor" can open windows, draw back curtains, point out the reason for disallowing the pile of stuffy bedclothes under which the patient is being stewed, encourage sponging, and direct generally those who, though eager to be taught how to help, too often, like Milton's hungry sheep, "look up and are not fed." These were the things I chiefly dwelt upon, urging that they were more important than the details which Dr. Vining has extracted for the purpose of his letter. Dr. Vining says my paper "would have been more helpful if he could have formulated a workable scheme for the handling of the many serious cases amongst the poorer classes." This was obviously not my thesis. I entirely endorse Dr. Vining's opinion that the civilian population has suffered severely because of the "apparent helplessness of the public health, Poor-law, and hospital authorities." The want of organisation, and of some central control, are, as Dr. Vining points out, pathetically evident. And the patience of the British public is once more a thing to wonder at, though not to admire. I am, Sir, yours faithfully,

London, Dec. 2nd, 1918. THOMAS HORDER.

Dr. C. MUTHU writes of four cases of influenzal pneumonia successfully treated with liquid paraffin as recommended by Dr. A. White Robertson. In all four cases the temperature went up suddenly, there were headache, flushing of the cheeks, double pneumonia with pleurisy, acute congestion of the bases, with temperature ranging from 103° to 105° F. In addition to general measures the bowels were kept freely open by aperients and by liquid paraffin. Over the chest, front and back, was applied a lint jacket soaked in paraffin oil (yellow), covered over with a double layer of jaconet, the dressing being renewed every 24 hours. When the temperature had fallen to 99° the oil dressing was removed, the bases were painted with liniment of iodine and thermogene wool was applied over the part. All the patients recovered and convalescence was uninterrupted.

Dr. H. O. BUTLER (Chiswick) writes of 500 consecutive cases of influenza, with 1 death, all treated—after an initial purge of castor oil or calomel—with 20–30 gr. of bicarbonate of soda by the mouth four-hourly, and tepid sponging if the body temperature rose above 103° F. The soda relieves abdominal pain and distension, and acts, Dr. Butler thinks, by inhibiting the growth of the causal organism and neutralising its toxin. Cases were not considered to be influenza unless they showed catarrhal signs in the lungs. The fatal case of the series had persistent vomiting of blood and mucus, so that the soda was not retained.—Dr. R. C. LEANING (acting M.O.H. for Chiswick U.D.) adds a note confirming the superiority of this method of treatment over others in use, also attributing its success to the neutralisation of intestinal toxins.

Dr. A. J. EAGLETON and Mr. H. H. BUTCHER write to make a suggestion for treatment of the pulmonary and septicæmic complications of influenza based on their experience at the Military Hospital, Sutton Veny, Wilts. Their routine is a rapid examination of the sputum to determine (if possible) if the *Streptococcus longus* or the pneumococcus is the chief factor of the secondary infection. Streptococcal or pneumococcal serum is then given combined with complement. The pneumococcal serum was prepared after the method of P. Kyes by inoculating fowls intravenously and subcutaneously with proved virulent cocci obtained from autopsies. The complement used was not more than 48 hours old, and was obtained by needling guinea-pigs' heart, separating the serum from the blood so obtained, and diluting it with 3 parts of carbolised saline. 4–5 c.cm. of serum and the same amount of complement are mixed in the syringe and injected into the subcutaneous tissue of the abdomen. Beneficial effects were produced in many cases.

Dr. W. C. MINCHIN (Herstmonceux, Sussex) writes to say that he has treated many patients with tri-methenal allylic carbide and that he can endorse the results recorded by Mr. W. Allingham in THE LANCET of Nov. 9th. Five patients constantly using preparations of allyl for other ailments, and residing in different houses in which the inmates were all stricken down with influenza, have themselves remained immune.

THE SPACING OF INJECTIONS IN THE MAINTENANCE OF A PNEUMOTHORAX.

To the Editor of THE LANCET.

SIR,—The very needful warning which Dr. Claude Lillingston has sounded in your issue of Nov. 30th, under the above heading, as to the risk of re-expansion and adhesion of a collapsed lung when too long an interval between "fillings" is allowed to elapse, tempts me to support his case with a parallel illustration, and also, if I may, to extend his danger area so as to cover a closely allied pitfall which awaits the feet of the unwary. And first of all for the illustration.

Towards the end of 1916 a lady was brought to me by a sanatorium physician for advice as to the continuation or otherwise of pneumothorax treatment. The collapse had been initiated some 12 months previously at another sanatorium; six months later a pleural effusion appeared, and the fillings had been abandoned for some months owing to the occurrence of troublesome "reactions." At the time I saw her all trace of gas had disappeared; there was fluid up to the second rib covering expanded lung, which supplied loud blowing breath sounds and abundant crepitations, and appeared to be adherent at the apex. I strongly advised re-establishment of the pneumothorax, and myself replaced the fluid with gas, and fortunately succeeded in separating off the adhering apex. She returned to the sanatorium and began to improve on monthly fillings, and continued to do so at another sanatorium to which she subsequently moved. But here, unfortunately, an interval of two months was allowed to elapse between two fillings, and she returned to me in May, 1917, with the lung again partly expanded and

adherent over the lower half of the chest wall behind. Fortunately the expanded lung tissue appeared to be of passably good quality, so no attempt to separate it off was made, nor if it had been would it in all probability have proved successful.

Here, then, we have a two-fold example of the danger to which Dr. Lillingston draws attention, and also, incidentally, of the disadvantage to pneumothorax cases of wandering from place to place, so that they lose touch with those who were acquainted with their lung before its collapse, and therewith the benefit of a consistent line of treatment.

The further pitfall to which I desire to direct attention is the danger of such re-expansion and adhesion of the lung resulting from failure to readjust the intrapleural pressure in pneumothoraxes of long standing. It was my misfortune to experience several such happenings before I fully realised the tendency of pneumothorax cavities to contract with time, even in cases where no pleural inflammation had ever been observed. This contraction has generally been referred to in the literature as if it were of occasional occurrence only, but in my experience it is the common event in cases of over a year's duration. As its result the mediastinum begins to move back towards the pneumothorax side, and a pressure which had sufficed to keep the lung collapsed through the accustomed interval now fails to accomplish this purpose. Under these conditions, unless the pressure is promptly raised, with or without a shortening of the interval, an expanded and adherent lung area will soon make its appearance, and its subsequent separation and re-collapse be difficult or impossible to accomplish. The following case will suffice to illustrate this accident.

R. W. with a left pneumothorax kept at a low pressure (0 + 4) because of a tendency to "ballooning" of the pleura. After a year of fillings at monthly intervals the lung began to show a tendency to expansion, and in spite of a slight raising of the pressure (to + 2 + 7) lung and heart became adherent to the axillary chest wall. The pressure was raised to + 6 + 11, and afterwards to + 14 + 17, with result that the heart was replaced, but a pulmonary adhesion remained without, however, any apparent detriment to subsequent treatment. There were never any evidences of pleurisy during the course of this case.

During the later stages of treatment, then, constant watch must be kept for evidences of contraction of the pneumothorax cavity, and if this occurs the pressure must be immediately raised or the interval decidedly shortened. Such cavities with fibrosed walls will bear gas pressures of + 20 cm. of water, or even of + 25 to + 30 cm. in selected cases, without any danger or discomfort to the patient. The actual pressure quickly falls, but the increased volume of gas removes the need for a shortening of the interval between the fillings. It would be interesting to learn Dr. Lillingston's experience of expansion of the lung in these later stages of prolonged pneumothorax treatment.

I am, Sir, yours faithfully,

Queen Anne-street, W., Nov. 30th, 1918. CLIVE RIVIERE.

THE ELSIE INGLIS CHAIR OF MEDICINE.

To the Editor of THE LANCET.

SIR,—Before many days have passed the Serbian Government will return from its exile in Corfu.

The committee of the Elsie Inglis London Memorial Fund hopes to hand over the money raised for the endowment of a Chair of Medicine in the University of Belgrade on the day of the entry of the Government into the capital. The required sum of £12,000 is not yet complete, and the honorary treasurers appeal to donors to send their contributions quickly.

The buildings of the University of Belgrade were shattered by the first Austrian shells of the war. The Elsie Inglis Chair of Medicine will be the first gift from this country towards the reconstitution of the national university. In Serbia, as here, "Education" is the watchword of the hour. Yours faithfully,

MAUD SELBORNE,
TERESA GOSSE,
Honorary Treasurers of the Fund.

London Units of Scottish Women's Hospitals (London Society N.U.W.S.), 66, Victoria-street, S.W. 1, Dec. 2nd, 1918.

CENTENARIANS.—The deaths of Mary Dardis and James Foley, each aged 102, and Mary Duffy, aged 100, are reported in county Westmeath from influenza.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

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TUESDAY, NOV. 26TH.

THE address delivered by the President was reported in last week's issue of THE LANCET.

Registration of Canadian Medical Qualifications.—Other Business.

The Council adopted a report of the Executive Committee in regard to the granting of medical qualifications in certain Canadian provinces. Two years ago, on information being received as to the institution of a five years' course in Saskatchewan, the acting registrar was directed to register any person who produced the licence of the College of Physicians and Surgeons of Saskatchewan and who satisfied the prescribed conditions. The Committee now reported that the question had arisen as to the position of practitioners who obtained the qualification of Member of the College of Physicians and Surgeons of the North-West Territories before they were divided into two provinces, of which one was Saskatchewan. The nature of the examination being satisfactory, the Committee had resolved to direct the acting registrar to register in the Colonial List any person holding the licence or the Membership of the College of Physicians and Surgeons of the North-West Territories obtained after examination in medicine, surgery, and midwifery, together with the licence of the College of Physicians and Surgeons of the Province of Saskatchewan, providing he satisfied the Registrar regarding the other particulars set forth in Part II. of the Medical Act, 1886.

The Council then considered *in camera* certain applications for restoration to the Register and also the question of appointment of treasurers. On the resumption of the public sitting the President announced that the acting registrar had been instructed to restore to the Register the names of James Alexander Baird Thompson, Alexander Orford Schorn, and Edmund Lyall Haynes. He also stated that Dr. Norman Moore had accepted the office of treasurer of the Council in succession to Sir Frederick Taylor, and that Dr. Moore's place as chairman of the Business Committee would be taken by Dr. Norman Walker.

The Case of Jules Michael Ralph Flament, M.D., B.Ch. Edin.

The Council considered an application from Dr. Jules Michael Ralph Flament, of Carlisle, through his counsel, Mr. A. Neilson, K.C., for the postponement of the hearing of the charges against him which had been fixed for that session. Notice of the charges had only been received on Oct. 25th, and they were not formulated in detail until Nov. 5th; also one of the charges had afterwards been altered in a fundamental particular. Dr. Flament strongly denied the charges, and Mr. Neilson submitted that three weeks was not a sufficient time in which to prepare his defence.

Sir FREDERICK SMITH, the Attorney-General, on behalf of the Ministry of Munitions, at whose instance the charges were brought, opposed the application for postponement, but said that if, as the hearing proceeded, it became evident that the practitioner's position was prejudiced through the shortness of the time he would then consent to the postponement. The Ministry of Munitions, he said, was a disappearing body, the legal adviser in charge of the case would not be in the country at the Council's next session, and already some witnesses had arrived from considerable distances.

After deliberating *in camera*, the Council decided that the case must go forward at the date originally stated.

WEDNESDAY, NOV. 27TH.

The Case of Thos. Stoney Sharpley, M.R.C.S. Eng., L.R.C.P. Lond.

The charge in this case was as follows:—

"That, being a registered medical practitioner, you abused your position by committing adultery with Mrs. Adeline Gladys Senior, whose daughter you had attended professionally, of which adultery you were found guilty by the decree of the Probate, Divorce, and Admiralty Division (Divorce) of the High Court of Justice, dated July 12th, 1915, and made absolute on Jan. 24th, 1916, in the case of Senior *v.* Senior and Sharpley, in which you were the co-respondent. And that in relation thereto you have been guilty of infamous conduct in a professional respect."

The complainant was Mr. Norman Senior. Mr. Sharpley was accompanied by his counsel, Mr. Le Bas, instructed by Messrs. Snell and Co. Mr. Senior was unable to attend owing to illness.

Mr. HARPER, solicitor to the Council, read the decrees of the Divorce Court and the shorthand notes taken at that hearing.

The Council having deliberated on the case *in camera*, the parties and the public were recalled, and the PRESIDENT said: Mr. Sharpley, I have to inform you that the Council has given careful consideration to your case; it has judged you to have been guilty of infamous conduct in a professional respect, and has directed the Registrar to erase your name from the Medical Register.

The Case of Isaac Bernard Barclay, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H.

He was charged as follows:—

"That, being a registered medical practitioner, with the object of obtaining the appointment of tuberculosis officer to the Derbyshire County Council, you knowingly and falsely stated in your form of application that you had held the resident appointments of house physician, Leeds General Infirmary, and clinical assistant, Liverpool Chest Hospital. And further, with the same object, that you submitted to the Tuberculosis Committee of the said Council a printed copy of a testimonial dated August 28th, 1915, which you had knowingly falsified in a material particular—viz., by making it falsely to state that you had held the appointment of assistant resident medical officer of the Winsley Sanatorium since July 11th, 1913, whereas you had in fact held such appointment for less than one month prior to August 28th, 1915. And that in relation thereto you have been guilty of infamous conduct in a professional respect."

The complainants were the Tubercu'osis Committee of the Derbyshire County Council, and their case was presented by their assistant solicitor, Mr. H. W. Skinner. Mr. Barclay was accompanied by Mr. F. Greer, K.C., instructed by Messrs. Rhys, Roberts and Co.

Mr. SKINNER, opening the case, said that in March, 1917, the County Council advertised the vacancy of assistant medical officer of the sanatorium, and Mr. Barclay applied by letter on April 10th, but without mentioning testimonials. On April 19th the committee interviewed him and he was appointed to the position. Shortly afterwards Dr. Fowler, the medical superintendent of the sanatorium, offered himself for military service, and it was suggested to Mr. Barclay that he should apply for that post as temporary superintendent. He did apply on May 21st, and an application form was sent to him to be filled up. It was on the information thus given that the chief charge arose, for defendant stated he had been house physician at Leeds General Infirmary, clinical assistant at the Liverpool Chest Hospital, also assistant resident medical officer at Winsley Sanatorium. Testimonials were enclosed from Mr. Gibbs, of Charing Cross Hospital; Dr. Howells, City of London Hospital; Dr. Hellier, Dr. Owen, Dr. Clegg, and Mr. Russell. At the meeting of the Tuberculosis Committee Dr. Barwise took Mr. Barclay through his application and the testimonials by which it was accompanied. On June 13th Mr. Barclay was appointed temporary medical superintendent. Owing to the fact that, when asking for the approval of the Local Government Board of the appointment, Mr. Barclay's name could not be found in the Medical Register inquiries were made, and it transpired that defendant's real name was Bernstein, and he had changed it by deed-poll, but did not have the alteration made in the Register. This explanation was frankly accepted by the committee, but later still his further statements were regarded as so suspicious that, at the request of the committee, he attended before them. His replies were so unsatisfactory that he was dismissed the post and required to leave immediately. This he did without making any protest.

Dr. BARWISE was examined and cross-examined, and his narrative supported in the main Mr. Skinner's opening.

Mr. BARCLAY gave evidence. He said he filled the form up in a great hurry in his bedroom late at night, without due care, in order to catch the last postal clearance, he having received a telegram stating that the next day was the last on which his application was receivable. The insertion of the year 1913 instead of 1915 was an error. He had no wish to deceive, especially as he knew that any misstatement he might make would be sure to be discovered. Asked as to the original of the testimonial furnished by Dr. Howells, of which he sent what purported to be a copy, he said it could not be found, but that he had received three testimonials from that gentleman. He considered he was entitled to mention on the form the various hospitals at which he obtained permission to attend in order to improve his medical knowledge.

The Council deferred the consideration of the case until the following day.

THURSDAY, NOV. 28TH.

The Council having deliberated *in camera* on the case of Isaac Bernard Barclay, the defendant and the parties were called in, and the PRESIDENT pronounced the following finding: I have to inform you that the Council, after very careful consideration, have found that the facts alleged against you in the notice of inquiry have been proved to their satisfaction. You have therefore been guilty of what is therein stated, that, with the object of obtaining a certain appointment, you knowingly and falsely altered and misstated in your applications and in your letters facts so that they should be to your greater advantage. I need not impress upon you, further, the gravity of that finding, which amounts to a finding of repeated untruthfulness. Having regard, however, to your comparative youth, and to your obvious failure to appreciate the importance of strict truthfulness in matters relating to your profession, the Council have decided to suspend their judgment against you for one year—the judgment, namely, which would proclaim you guilty of infamous conduct and erase your name from the Register. They will require you, however, to attend here next May, and to produce at the session which will then be held evidence satisfactory to the Council as to your conduct in the interval, particularly in respect of truthfulness. And they will then require you, unless judgment is pronounced in the May session, to appear before them in November next to hear what their judgment is. They will also require you, before May next, to send in to the Registrar the names of two or three persons who know you and who are of standing and respectability, to whom the Council may refer for an opinion as to your character and conduct from this time forth.

The Council have to express their acknowledgments to the Derbyshire County Council for the clear manner in which they had performed a public duty in calling attention to this case.

The Case of Stanley Henry, M.B., Ch.B. Aberd.

The charge against this practitioner was as follows:—

"That being a registered medical practitioner while acting as locum tenens for Kenelym Cobham Edwards, of Tudor House, Sawston, Cambridge, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., and attending his patients, you were drunk, and thus incapacitated from properly carrying out your professional duties towards them. And further, on or about Oct. 20th, 1917, while drunk, and in the course of a professional visit to her, you made improper advances to one Mrs. Florence Elizabeth Gee. And in relation thereto you have been guilty of infamous conduct in a professional respect."

Dr. HENRY gave evidence in denial of all the charges, and detailed evidence having been heard from witnesses on both sides the President, after consultation with the Council *in camera*, announced that the allegations against Dr. Henry had not been proved and that the charge was dismissed.

FRIDAY, NOV. 29TH.

The Case of John Stanley Francis.

The Council considered the case of John Stanley Francis, a registered dentist, who appeared before the Council at the May session. There had been at that time three police-court convictions against him for disorderly or drunken behaviour. Further consideration of the case had been postponed until this group of sessions, and the Dental Committee now reported that no fresh notice of conviction had reached the Council, and that Mr. Francis had submitted testimonials as to his character and conduct in the interval, which were regarded as satisfactory. After deliberating *in camera* the President announced that the Council did not see fit to direct the Registrar to erase the name from the Register.

"Army Education Certificate" in General Education.

The PRESIDENT announced that the Council had passed the following resolution:—

"That the 'Army Education Certificate' in the subjects of general education, if attested by a University or other Licensing Body as sufficing for admission to its course of professional study, should be accepted for registration in the Students' Register."

The Case of Dr. J. M. R. Fiament.

The charges against this practitioner were two. The first alleged that he had given an improper certificate enabling an Italian subject to avoid military service. The second alleged that he had supplied a patient, desirous of procuring her own miscarriage, with certain pills at a charge of £2.

Mr. Tindal Atkinson, K.C., appeared for the Ministry of Munitions, Mr. A. Neilson, K.C., for the defendant.

Mr. ATKINSON, in his opening statement, said Dr. Flament had been practising in Carlisle for eight or nine years. The man Coia, who figured in the case, was a dining-car chef who had a confectioner's business in Carlisle. He did not wish to serve in the Italian Army, and went to Dr Flament to see whether he was fit. Dr. Flament gave the man a certificate to the effect that he had treated him four years ago for acute septic tonsillitis, leading to abscess formation, and that four months later he had treated him for diphtheria, which had left him subject to cardiac weakness and angina pectoris. But actually, said counsel, the man had been treated by Dr. Flament once only, and that was for the removal of tonsils; he had not had either diphtheria or angina. In consequence of his occupation Coia was not called up, and nothing further was heard of the circumstances until April, 1918, when Dr. Flament sent him a bill for three guineas, followed by a county court summons. Subsequently the man was examined by a medical board and passed Grade I., and was now serving in the Manchester Regiment. The second offence alleged was that a girl named Maggie Stalker, who was three months pregnant, was anxious that her parents should not know of her condition, and, with her sister, she called on Dr. Flament in October, 1917, to ascertain whether he could give her anything "to get rid of it." The doctor examined her and offered to supply her with some pills which, he said, would cost her £2. The girls said they could not afford that sum, whereupon he wrote out a prescription. This medicine, however, had no effect. She returned, and ultimately bought the pills, but these also were ineffectual, and the baby was born in April, 1918. Counsel did not affirm that what Dr. Flament had given her was noxious; the offence was that he allowed the girl to think that the drug would effect the purpose she desired.

Considerable legal argument ensued between counsel, Mr. Neilson contending that the case ought not to be taken because the Ministry of Munitions had not obeyed the Standing Orders of the Council, which required that the witnesses should make sworn depositions, whereas in this case there had been no statutory declarations. A further reason was that the second charge was a criminal charge, and that it should first be investigated by a criminal court before this Council had any jurisdiction.

After consideration of the points raised *in camera* the President announced that the decision was to over-rule both objections and to proceed with the case. They decided to take the second charge first.

Dr. FLAMENT, MAGGIE STALKER, and other witnesses having given evidence, the Council deliberated *in camera*. The President later announced that the Council found that the facts alleged in that part of the notice of inquiry had been proved to the satisfaction of the Council.

Mr. ATKINSON said his feeling was not to proceed with the other charge.

The Council then again retired, and later it was announced that Dr. Flament had been guilty of infamous conduct in a professional respect, and the Registrar had been instructed to erase his name from the Register.

The Council adjourned on Saturday, Nov. 30th.

THE SERVICES.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lieut.-Comdr. C. D. Bell to be placed on Retired List.

Surgeon Lieutenant-Commanders to be Surgeon Commanders: M. J. Laffan, A. D. Spalding, A. McCloy, F. E. Anley, A. C. W. Newport, A. Davidson, G. D. Bateman, D. P. Chapman, R. F. MacMahon, W. N. Blatchford, G. C. Cross.

ROYAL NAVAL VOLUNTEER RESERVE.

J. Sharpe to be temporary Surgeon Lieutenant.

ARMY MEDICAL SERVICE.

Col. H. M. Alamson is placed on retired pay.

ROYAL ARMY MEDICAL CORPS.

Temp. Capt. A. G. Stewart to be acting Lieutenant-Colonel whilst specially employed.

To be acting Majors whilst specially employed: Temp. Capt. G. J. Arnold; Temp. Lieut. G. E. Froggatt.

Capt. W. W. Treves to be acting Major.

Temp. Major T. H. T. Frampton to draw the pay and allowances of his temporary rank whilst specially employed.

Temp. Capt. W. W. Wells relinquishes the acting rank of Major on re-posting.

Temp. Capt. S. E. Beech, Canadian A.M.C., to be temporary Major.

To be Captains: Capts. (from Special Reserve) F. D. Annesley, W. Tyrrell, J. H. Ward, R. C. Aitchison, W. Bird, W. S. Tyndall, J. Vallance, R. G. Martyn; Capts. (from Territorial Force) J. W. Burton, M. Morris, B. H. C. Lea-Wilson: Temp. Capts. F. Harris, G. S. Douglas.

Temporary Lieutenants to be temporary Captains: G. W. Middlemiss, C. H. Bryan, J. M. Hall, W. H. Gray, J. A. Berlyn.

To be Lieutenants, and to be granted the temporary rank of Captain: Capt. J. W. G. H. Riddel, from T.F.; Temp. Capt. P. H. Wells; Capt. C. O. J. Young, from Spec. Res.

Temporary Honorary Lieutenants to be temporary Honorary Captains: F. Coates, G. S. Peppers.

J. O'B. Hodnett to be temporary Honorary Lieutenant whilst employed with No. 8 Red Cross (Baltic and Corn Exchange) Hospital.

E. Whalley and J. N. Beadles, late temporary Lieutenants, are granted the honorary rank of Lieutenant.

Officers relinquishing their commissions: Temp. Major H. E. Durham (on ceasing to be employed); Temp. Capts. A. MacKintosh, A. Burton, B. H. S. Aylward, T. P. Gray, J. M. Twentyman, J. H. Jones, W. F. Wilson, W. C. P. Bremner, P. McDougall, J. S. Stewart, J. C. R. Braine-Hartnell, A. B. Blomfield, S. J. C. Fraser, E. M. Ashcroft, J. J. McMillan, H. Emerson, W. G. F. Johnson, F. Carson, A. Jones, J. H. Blakeney, H. J. Nightingale, N. C. Talbot, F. K. Keane, M. Aikman, C. E. Pepper (on account of ill health contracted on active service, and is granted the honorary rank of Captain), H. C. Martin, A. L. Husband, R. McAllister, H. T. H. Butt, F. E. Easton, F. R. Smyth, J. A. Hayward, R. C. de C. Wheeler, T. Johnston (on account of ill-health, and is granted the honorary rank of Captain), L. B. Perry (on account of ill-health contracted on active service, and is granted the honorary rank of Captain): Temp. Lieuts. R. Buchanan, F. E. Clay, R. F. Twort, P. J. Flood, G. M. Crawford, J. Jamieson; Temp. Hon. Lieut. R. F. H. Jones (on ceasing to be employed at the Welsh Hospital, Netley).

SPECIAL RESERVE OF OFFICERS.

Capt. C. H. G. Penny to be acting Major.

Capt. W. V. Tothill is appointed for service under the Colonial Office.

Lieutenants to be Captains: H. M. Holt, J. W. H. Grice, J. J. Conybeare, S. M. Riddick, L. C. Moore, C. G. Magee, J. W. Brash, A. B. Platt, W. T. G. Boul, K. J. A. Gillanders, W. B. Buer.

Lieut. H. M. Savery relinquishes his commission on account of ill-health contracted on active service, and is granted the honorary rank of Lieutenant.

W. M. Casper, W. H. Simmons, G. F. Peters, W. A. Hawes, and R. A. Olphert (from University of London Contingent, O.T.C.) to be Lieutenants.

TERRITORIAL FORCE.

General List.—Capt. C. F. Searle to be acting Major whilst specially employed.

Capt. (acting Major) R. M. Wilson relinquishes his acting rank on ceasing to be specially employed.

Capt. J. Morham to be acting Major whilst specially employed.

Capt. C. R. Wallace is seconded for service under the Colonial Office.

Major G. R. Murray, 2nd Western General Hospital, is seconded whilst holding a temporary commission in the Army Medical Service.

Capt. A. G. T. Fisher, 2nd Southern General Hospital, to be acting Major whilst specially employed.

Capt. (acting Major) J. Patrick, 3rd Scottish General Hospital, relinquishes his acting rank, and remains seconded.

ROYAL AIR FORCE.

Medical Branch.

The following have received temporary commissions:—

As Lieutenants-Colonels.

Lieut.-Col. T. D. C. Barry, R.A.M.C.; Lieut.-Col. T. Philip, R.A.M.C. (T.F.); Major G. N. Biggs, acting Lieutenant-Colonel, R.A.M.C.; Fleet Surgeons (R.N.) H. E. South, H. J. Hadden, E. C. Cridland, E. O. B. Carberry, N. H. Harris.

As Majors.

Staff Surgeons (R.N.): R. R. Fasson, G. D. Bateman, A. W. Iredell, B. R. Bickford, D.S.O., C. F. Bainbridge, J. D. Keir, R. H. McGiffen, E. M. W. Hearn, L. L. Greig, A. Fairley; Majors (R.A.M.C.) E. G. R. Lithgow, W. G. Mitchell; Major (R.A.M.C., T.F.) A. H. Hogarth.

As Captains.

H. B. Porteous (late Captain, R.A.M.C., T.F.) as Captain and to be acting Major whilst specially employed.

Captains (R.A.M.C.) J. C. Hall, G. W. Clarke, F. Roberts, C. C. Fitzgerald, M.C., H. N. Holt, H. J. Orr-Ewing, H. M. S. Turner, J. J. Sinclair, W. H. Payne, J. E. Cox, A. W. Weston, H. Y. Riddell, R. J. Hearn, J. R. Russell, E. P. Chennells, A. J. O. Wigmore, J. Keenan, D. Wilson, H. B. Smith, P. W. McKeag, A. F. Rook, F. Irvine, R. L. Roe, P. H. Hadfield, L. G. Davies, H. Harvey, A. J. Davoren, T. S. Rippon, C. Salkeld, F. H. Bowen, H. W. Pigeon, W. P. Nasmyth, E. Brown, W. H. Anderson, J. L. Whatley, A. Thompson, A. E. F. F. Huntsman, R. A. G. Elliott, W. F. Walker, E. W. Longden, W. B. Loveless, M.C., A. E. McCulloch, H. E. Whittingham, D. Cameron, J. E. Cable, H. N. Wright, J. S. Stevenson, L. C. Rivett, T. R. Hunter, K. P. Carmody, F. C. Jobson, D. Ranken, L. A. Walker, W. P. Whippell, R. H. Robbins, J. D. Bridger, R. H. Dixon, A. B. Rooke, F. C. Morgan, A. E. B. Sim, C. Visger, W. M. Jeffreys, L. C. Smith, E. R. Bastard, L. C. Blackstone, G. Lewin, W. A. Simpson, A. W. P. Pirie, A. H. Wade, W. Bannerman, A. B. Lindsay, J. J. O'Mullane, J. Gardiner, T. E. Regan, C. J. Miner, C. E. Lowe, M. R. Dobson, O. May, M. Hocken, C. Peacock, C. P. Strong, A. H. L. Thomas, A. P. Woolright, W. F. Wilson.

Capts. (R.A.M.C., S.R.) W. Darling, M.C., N. C. Bazett, M.C., H. S. Baker, A. A. Atkinson, R. E. Bell, K. Biggs, R. D. Goldie, I. L. Waddell, J. Lawson, E. N. H. Gray, F. J. Murphy, S. H. de G. Pritchard.

Capts. (R.A.M.C., T.F.) A. MacLennan, J. M. Kirkness, F. C. Kempson, J. A. Parsons, J. P. N. Casey, W. H. H. Bennett, A. Scott-Turner, A. Leitch, J. P. I. Harty, C. Webb, F. J. P. Saunders, J. J. C. Hamilton, O. Gleeson, W. R. Kemp, N. R. Williamson, C. P. C. Sargent, H. J. Shanley, E. W. Gregory.

Capt. (temp., R.A.M.C.) P. J. Flood.

P. A. Hall, D. J. Cannon, C. L. McDonogh.

A. E. Panter (Permanent Surgeon, R.N.).

Surgeons (R.N.) H. R. B. Hull, A. R. Sharrod, E. J. Boyd, S. Robertson, P. M. Keane, H. G. Sutherland, R. S. Overton, H. W. Scott, R. G. Lyster, N. F. Lloyd, V. A. Playne, D.S.O., J. Rothwell, H. G. Anderson, R. H. Knowles, J. O. Watson, W. G. Robertson, J. C. H. Allen, J. P. Walker, C. H. Browne, G. H. Latham, J. Allen, V. Magee, J. R. Adam, E. Heffernan, J. A. Gordon, J. Grimoldby, J. M. Bangay, A. G. Holman,

H. H. Gellert, E. D. Granger, H. J. Bates, T. C. St. C. Morton, R. M. Dannatt, D. G. Boddie, M. R. O. Wilson, J. T. Thomas, J. Duffin, O. H. Gotch, C. S. Kindersley, T. R. F. Kerby, R. D. Neagle, R. W. Pritchard, T. R. S. Thompson, L. C. M. Wedderburn, K. B. Aikman, E. T. D. Fletcher, W. A. Pocock.

Surgeons (R.N.V.R.) C. J. G. Taylor, E. P. Punch, J. D. Cherry.

As Lieutenants.

C. McC. Jones (Honorary Captain, Retired List) and to be Honorary Captain.

Lieuts. (R.A.M.C.) J. A. Johnson, P. M. Roberts, C. T. Costello, J. W. Brash (Lieut. R.A.M.C., S.R.).

J. Prendergast, T. J. X. Canton, S. G. Seymour, W. F. Shell, V. I. Levy, C. C. Rowland, P. McDiarmid, A. Watson, H. J. Swan, J. W. Healy, A. Briscoe, M. M. Price, M. J. Smyth, E. G. O'Gorman.

Dental Branch.

Lieut. F. B. Stradling to be Lieutenant, from (T.).

A. G. Marks is granted a temporary commission as Lieutenant.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.
Practice of Surgery. By R. Howard, M.S. 2nd ed. 25*s.*

BAILLIÈRE, TINDALL, AND COX, London.
Papers on Psycho-Analysis. By E. Jones, M.D. 2nd ed. 21*s.*
Advanced Suggestion (Neuro-induction). By H. Brown, L.R.C.P. 6*s.*

BLACK, A. AND C., London.
Surgery at a Casualty Clearing Station. By Cuthbert Wallace, F.R.C.S., and John Fraser, F.R.C.S.E. 10*s.* 6*d.*
A Text-book of Midwifery for Students and Practitioners. By R. W. Johnstone, M.D. 2nd ed. 12*s.* 6*d.*

CASSELL AND CO., London.
Manual of Chemistry. By A. P. Luff, M.D., and H. C. Candy, B.Sc. 6th ed. 12*s.*

MACMILLAN AND CO., London and Canada.
The Soldier's First-Aid. By R. C. Wood. 2*s.* 6*d.*
The Canadian Medical Week, Hamilton, May 27th to June 1st, 1918. $3.00.

MASSON ET CIE., Paris.
Gun-Shot Fractures of the Extremities. By Joseph A. Blake, Lieutenant-Colonel, Medical Corps, U.S.A. 4 fr.
Syphilis, Paludisme, Ambiase, Traitement Initial et Cure de Blanchiment. Par P. Ravaut, Médecin des Hôpitaux de Paris. Preface du Professeur F. Widal. 4 fr.
Les Borgnes de la Guerre. Par le Dr. G. Valois, Membre de la Société d'Opotalmologie de Paris. 12 fr.

OXFORD PRESS WAREHOUSE, London.
Field Sanitation. By R. St. J. Macdonald, C.A.M.C. 6*s.*

WRIGHT, JOHN, Bristol.
Our Baby. By Mrs. L. Hewer. 16th ed. 2*s.* 6*d.*

Communications, Letters, &c., to the Editor have been received from—

A.—Prof. F. W. Andrewes, Lond.; Dr. J. Adams, Lond.

B.—Messrs. Butterworth and Co., India; Dr. H. O. Butler, Lond.; Dr. W. J. Butcher, Worthing; British Chemical Ware Manufacturers' Association, Lond.; Dr. B. Bavbett, Bavleigh; Mr. J. Burns, Edinburgh; Lieut.-Col. J. W. Bird, R.A.M.C.; Mr. J. Best, Lond.

C.—Dr. S. D. Clippingdale, Lond.; College of Physicians of Philadelphia, Sec. of; Mr. J. F. Colyer, Lond.; Mr. A. L. Clarke, Lond.; Sir James Cantlie, K.B.E., Lond.; Committee on War Damage, Lond.

D.—Mr. I. David, Colombo; Mr. P. Dow, Elgin; Prof. S. Delépine, Manchester; Major J. W. Downie, R.A.M.C.(T.); Decimal Association, Lond.; Mrs. A. Demetriadi, Tideswell.

E.—Epsom College, Lond.; Dr. A. C. Evarts, Jaffna, Ceylon; Capt. A. J. Eagleton, R.A.M.C.

F.—Capt. W. Fletcher, R.A.M.C.; Lieut.-Col. H. French, R.A.M.C.; Capt. H. J. B. Fry, R.A.M.C.(T.); Capt. H. L. Flint, R.A.M.C.; Factories, Chief Inspector of, Lond.

G.—Dr. H. M. Gay, Middlesbrough; General Medical Council, Lond., Acting Registrar of; Mr. P. C. Gibson.

H.—Dr. C. O. Hawthorne, Lond.; Dr. H. Head, Lond.; Sir Thomas Horder, Lond.; Mr. W. S. Handley, Lond.

J.—Mr. F. Jenner, Boscombe; Mr. M. H. Judge, Lond.

K.—Lieut.-Col. J. Keay, R.A.M.C.

L.—J. B. Lippincott Co., Philadelphia; Dr. A. E. T. Longhurst, Chandler's Ford; London Units of the Scottish Women's Hospitals; Mr. N. P. Laing, Lond; Dr. S. C. Lawrence, Lond.

M.—Sir Henry Morris, Lond.; Mr. J. B. Macalpine, Manchester; Dr. H. C. Miller, Lond.; Dr. N. Moore, Lond.; Dr. A. A. Miller, Saint-Rome; Dr. I. Moore, Lond.; Dr. M. McNeill, Edinburgh; Mr. G. Mayall, Bolton; Dr. C. Muthu, Wells; Bde.-Surg. Lieut.-Col. A. B. R. Myers, A.M.S. (retd.); Capt. A. MacDonald

N.—National Food Reform Association, Lond.; Mr. C. L. Nordon, Lond.

O.—Mr. J. Offord, Lond.; Capt. J. H. Owen, R.A.M.C.(S.R.); Sir Thomas Oliver, Newcastle-on-Tyne.

P.—Mr. R. D. Pedley, Lond.

R.—Dr. C. Rivière, Lond.; Dr. J. W. Rob, Weybridge; Mr. B. S. Rowntree, York; Mr. B. T. Rose, Birmingham; Capt. G. Riddock, R.A.M.C.; Royal Society, Lond.; Royal Society of Arts, Lond.

S.—Lieut.-Col. A. Street, I.M.S.; Société de Biologie, Paris; Mrs. H. M. Stansfeld, Lond.; Dr. E. I. Spriggs, Banff; Prof. W. J. Simpson, Lond.; Dr. G. A. Sutherland, Lond.; Dr. W. W. Seton, Lond.; Dr. P. L. Sutherland, Wakefield; Dr. R. H. Steen, Dartford.

T.—Mr. A. F. Theobalds, Buxton; Mr. A. H. Thompson, Lond.

W.—Major C. J. Wiley, A.A.M.C.; Dr. F. P. Weber, Lond.; Mr. J. M. Wadsworth, Leeds; Dr. A. Wylie, Lond.; Bt.-Major W. J. Wilson, R.A.M.C.(T.); Dr. W. H. Wynn, Bolton; Major H. W. Wiltshire, D.S.O., R.A.M.C.; West London Medico-Chirurgical Society; Dr. S. A. K. Wilson, Lond.; Dr. C. H. Whiteford, Plymouth.

Communications relating to editorial business should be addressed exclusively to The Editor of THE LANCET, 423, Strand, London, W.C. 2

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY, Dec. 12th.—Papers:—Dr. M. C. Stopes: The Four Visible Ingredients in Banded Bituminous Coal (communicated by Sir George Beilby).—Mr. H. C. Bazett: Observations on Changes in the Blood Pressure and Blood Volume following Operations in Man (communicated by Prof. W. M. Bayliss).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.1.

MEETINGS OF SECTIONS.

Monday, Dec. 9th.

ODONTOLOGY (Hon. Secretaries—F. N. Doubleday, G. Paton Pollitt, J. Howard Mummery): at 7.30 P.M.

Casual Communication:
Major Pickerill: Skin Grafting of the Buccal Sulcus.

Paper:
Major F. M. Wells, C.A.D.C.: Food Deficiency Products and their Relation to Calcification and Fixation of the Teeth.

Tuesday, Dec. 10th.

PSYCHIATRY (Hon. Secretaries—Bernard Hart, G. F. Barham): at 5 P.M.

Paper:
Dr. Bernard Hart: The Methods of Psycho-therapy.

Friday, Dec. 13th.

EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—William Butler, M. Greenwood): at 5.30 P.M.

Presidential Address:
Dr. E. W. Goodall: Enteric Fever in Flanders, 1914-1915.

Dinner will be provided for those Members who desire it at Pagani's Restaurant (7.30 P.M.). Members wishing to dine are requested to communicate with the Hon. Secretary (Capt. Greenwood, Ministry of Munitions, 7, Northumberland-street, W.C.2), not later than Dec. 11th.

The Royal Society of Medicine keeps open house for R.A.M.C. men and M.O.'s of the Dominions and Allies. The principal hospitals in the metropolis admit medical officers to their operations, lectures, &c. Particulars on application to the Secretary at 1, Wimpole-street, London, W.1.

MEDICAL SOCIETY OF LONDON, 11, Chandos-st., Cavendish-sq., W.
MONDAY, Dec. 9th.—8.30 P.M.: Paper:—Lieut.-Col. E. F. Buzzard, R.A.M.C.: Epidemic Encephalitis.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
MONDAY, Dec. 9th.—5 P.M., Cantor Lecture:—Dr. J. C. Philip, O.B.E.: Physical Chemistry and its bearing on Chemical and Allied Industries. (Lecture II.)
WEDNESDAY—4.30 P.M., Paper:—Major-Gen. Sir Frederick Smith, K.C.M.G., C.B.: The Work of the British Army Veterinary Corps at the Fronts.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
Clinics each week-day at 2 P.M., Wednesday, Friday, and Saturday also at 10 A.M.
(Details of Post-Graduate Course were given in issue of Nov. 30th.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
Out-patients each day at 2.30 P.M.

THE THROAT HOSPITAL, Golden-square, W.
MONDAY, Dec. 9th.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.
Course of Lectures on Public Health Problems under War and After-war Conditions (each Lecture will be followed by a Discussion):—
WEDNESDAY, Dec. 11th.—4 P.M., Lecture X.:—Dr. E. Pritchard: The Organisation and Administration of Child Welfare Centres.

LONDON HOSPITAL MEDICAL COLLEGE, in the Clinical Theatre of the Hospital.
A Course of Eight Lectures on Psychoneuroses in Peace and War:—
MONDAY, Dec. 9th.—5 P.M., Lecture I.:—Capt. M. Culpin, R.A.M.C.: Diagnosis of Hysteria and Psychasthenia. History of Opinion.
TUESDAY.—5 P.M., Lecture II.:—Capt. M. Culpin, R.A.M.C.: The Unconscious. Conflict and Regression. The Censor.
THURSDAY.—5 P.M., Lecture III.:—Capt. M. Culpin, R.A.M.C.: Dissociation of Consciousness. Hypnosis.
FRIDAY.—5 P.M., Lecture IV.:—Capt. M. Culpin, R.A.M.C.: Working Theory; a combination of Janet and Freud. The Relation of Hysteria to Malingering.

ROYAL SURGICAL AID SOCIETY.—The annual meeting will be held at the Mansion House, London, on Monday, Dec. 9th, at 4 P.M., with the Lord Mayor in the chair.

PARIS FACULTY OF MEDICINE.—M. Lejars has been appointed Professor of Clinical Surgery in succession to M. Recius (deceased); M. Jeanselme to the chair of Cutaneous and Syphilitic Diseases, following M. Gaucher (deceased); and M. Vaquez succeeds M. Widal (called to other duties) as Professor of Internal Pathology.

Appointments.

TOWNSEND, ARTHUR, M.D., has been appointed Medical Superintendent of Barnwood House, Gloucester, in place of Dr. James Greig Soutar, resigned.

Vacancies.

For further information refer to the advertisement columns.

Birkenhead Borough Hospital.—Jun. H.S. £170.
Birkenhead Union.—Res. Asst. M.O. £300.
Birmingham City, Pensioners' Hospital.—M.O. £500.
Birmingham General Hospital.—Res. M.O. £155.
Camberwell Infirmary.—Temp. Asst. Med. Supt. £500. Also Locum Tenens Asst. M.O. £7 7*s.* weekly.
Cardiff, King Edward VII.'s Hospital.—H.S. £200. Also Student Dresser. 52 gs.
Chesterfield and North Derbyshire Royal Hospital.—Jun. H.S. £150.
Croydon General Hospital.—Hon. M.O.
Dudley, Guest Hospital.—Hon. Surg. Staff.
Dumfries and Galloway Royal Infirmary.—Res. H.S. £150.
Folkestone, Royal Victoria Hospital.—H.S. £200.
Halifax County Borough Education Committee.—School M.O. £500.
Hampstead General and North-West London Hospital.—H.S. and H.P. £200.
Hellingly, Sussex, East Sussex County Asylum.—Temp. Asst. M.O. 7 gs. wk.
Leeds Public Dispensary.—Two Hon. Dent. Surgs.
Manchester Northern Hospital for Women and Children.—H.S. £150.
Manchester, St. Mary's Hospitals for Women and Children.—H.S. £200.
Middleton-in-Wharfedale Sanatorium, nr. Ilkley.—Asst. Res. M.O. £525.
Nottingham General Hospital.—Female H.P. and H.S. £250.
Oxford, Radcliffe Infirmary and County Hospital.—H.P. £200.
Rochdale Infirmary and Dispensary.—Sen. H.S. £300.
Royal London Ophthalmic Hospital, City-road, E.C.—Refrac. Asst. £100.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Female Jun. Res. M.O. £150.
St. Bartholomew's Hospital.—Res. Anæs. £80.
St. Peter's Hospital for Stone, &c., Henrietta-st., W.C.—Jun. H.S. £75.
Sheffield Royal Infirmary.—Two H.S.'s. £150.
Southampton, Shirley Warren Infirmary.—Res. Asst. M.O. £250.
Stockport Infirmary.—Dispenser. £200.
Taunton and Somerset Hospital.—Sen. Res. H.S.
Victoria Hospital for Children, Chelsea, S.W.—Sen. Res. M.O. £250.
Whitehaven and West Cumberland Infirmary.—Res. H.S. £150 to £180.
Wigan Infirmary.—Sen. H.S. £250.
Wolverhampton and Staffordshire General Hospital.—Res. M.O. £200.
Woolwich and Plumstead Cottage Hospital Association.—Hon. Med. Staff.
Worcester County & City Asylum, Powick.—Temp. Asst. M.O. £7 7*s.* wk.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Kanturk, Cork.

Births, Marriages, and Deaths.

BIRTHS.

AVELING.—On Nov. 19th, at Dunstable, the wife of Captain K. J. Aveling, R.A.M.C., of Bushey, of a daughter.
CADDELL.—On Nov. 22nd, at Upper Fitzwilliam-street, Dublin, the wife of Major (acting Colonel) E. D. Caddell, M.C., R.A.M.C., of a daughter.
GOODWIN.—On Dec. 1st, at Mount Park-crescent, Ealing, the wife of Lieutenant-Colonel W. R. P. Goodwin, D.S.O., R.A.M.C., of a son.
HAMILTON.—On Dec. 2nd, at Princes-gate, the wife of Captain Keith Hamilton, R.A.M.C., of Egypt, of a daughter.
SCAWIN.—On Nov. 27th, at Selway, Fairford, Glos., the wife of Major Scawin, R.A.M.C., of a son.
THORNTON.—On Nov. 25th, at Cotswolds, Cosham, Hants, the wife of Captain Gerald E. Thornton, R.A.M.C., of a son.

MARRIAGES.

MARTYN-CLARK—RODGERS.—On Nov. 30th, at St. Paul's, Chichester, Robert Eric Noel Martyn-Clark, L.R.C.P. & S. Edin., to Ethel Maud, youngest daughter of the late C. J. Rodgers, Punjab, India, and Mrs. Rodgers, Handsworth Wood, Birmingham.
RIPPINER—HARVEY.—At Augustine Congregational Church, Edinburgh, on Saturday, Nov. 30th, 1918, Henry Anthony Rippiner, M.B., Ch.B., L.R.C.S. Ed., of Bradford, to Florence Maude Elizabeth Harvey, of Edinburgh.

DEATHS.

CROCKETT.—On Dec. 2nd, at his residence, Sinclair-road, Kensington, very suddenly, Edward Crockett, F.R.C.S., L.R.C.P. & S., aged 74.
LUSH.—On Nov. 28th, at 48, Avenue road, N.W., from pneumonia, Percy J. F. Lush, M.A., M.B., B.Ch. Oxon., dearly loved husband of Lydia Lush, and youngest son of the late Rt. Hon. Lord Justice Lush, aged 60.
LYNCH.—On Nov. 26th, at Weymouth-street, W., Gilbert Lynch, M.A., M.D., M.R.C.P., aged 67.
STOPFORD-TAYLOR.—On Dec. 1st, from pneumonia following influenza, George Grayson Stopford Stopford-Taylor, M.D., of Rodney-street, Liverpool, in his 71st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

FOOD, HEALTH, AND THE GENERAL ELECTION.

THE management of our food supplies, including their constitution and distribution, played an all-important part in the successful prosecution of the war; the subject touches all departments of life, and will be equally important in the days of reconstruction. With the advent of a new Parliament it is, therefore, reasonable that the attitude of prospective candidates towards the problems involved should be known, and with this object the National Food Reform Association, Danes Inn House, Strand, London, W.C., is putting a series of questions to all candidates for Parliamentary honours with regard to milk-supply, food adulteration, public kitchens, slaughter-houses, meals for children, the feeding of the Navy and Army, and other matters which have a direct bearing upon avoidable disease, preventive degeneracy, and upon the health of the people generally. Similar action was taken by the association during the elections of 1910, when on each occasion more than 100 candidates answered the questions in a sympathetic manner. In 1911, a meeting, convened by Dr. Christopher Addison and others, was followed by the formation of a Parliamentary Committee on Food and Health, whose activities have been suspended during the war. Its opportunities for useful work are now increased, and the support of Members of Parliament in sympathy with its operations ought to produce practical results.

THE MEDICAL MAN'S INCOME-TAX.

To the Editor of THE LANCET.

SIR,—I too have made application for the deduction from taxable income for subscriptions to the Royal Society of Medicine, THE LANCET and the *Practitioner*, and like "Medical Superintendent," whose letter appeared in your issue of Nov. 16th, was told that these items were not admissible deductions. The reason, given verbally, as I understood it, was that though these items would probably be accepted in a claim made under Schedule D they were definitely ruled out by the stricter legal terminology that appears to govern Schedule E. I then argued that as these subscriptions were made for the purpose of procuring the most recent professional literature in order to enable the doctor to keep himself up to date in his knowledge, and as this was a duty imposed on the doctor by his obligation to his patients, the items were properly most "necessary expenses," and, further, that their necessity was entirely unaffected by the particular schedule. The position would appear to be quite different from that in the case of Charlton *v.* The Commissioners of Inland Revenue, in which the reverend plaintiff was claiming relief for what was practically the voluntary purchase of a large ecclesiastical reference library.

The official to whom I applied appreciated my point, but said that in his opinion the Act was against it. It would be a graceful concession were the income-tax surveyors to receive instructions from the Commissioners to make all permissible deductions apply to both schedules equally. The cash value at issue is negligible, but the principle is worth a fight.—I am, Sir, yours faithfully,

Nov. 26th, 1918. A WHOLE-TIME MEDICAL OFFICER.

To the Editor of THE LANCET.

SIR,—Referring to the letter of "Medical Superintendent" in your issue of Nov. 16th the editorial view there expressed has been confirmed by authority higher than that of a surveyor of taxes. The real test is: Are the payments wholly and exclusively laid out for the purposes of the profession? Subscriptions paid to professional associations from which benefit is (or may be) obtained are usually allowed; but this does not, of course, cover subscriptions to private clubs. The cost of illustrated papers on waiting-room tables is not objected to. The renewal of professional books and instruments is always allowed. The word "renewal," of course, covers the purchase of a new edition to replace an earlier edition of the same book. But in my opinion it goes further and covers expenditure required to keep the medical man's library abreast of new developments, just as in the case of instruments. A medical man or a lawyer is not, as regards books, in the same position as a clergyman. In the medical and legal professions books are tools.

The outstanding income-tax case of Usher's Wiltshire Breweries is referred to officially as giving the high authority of the House of Lords for the proposition that, in calculating profits for income-tax, outgoings may be deducted, though they were not necessary, if they were commercially expedient. I am, Sir, yours faithfully,

Edinburgh, Nov. 27th, 1918. JOHN BURNS.

"DR. WISE ON INFLUENZA."

UNDER the auspices of Sir Auckland Geddes, President of the Local Government Board, a kinematograph film has been prepared by Mr. Jos. Best, B.Sc., on influenza. The film, which takes about 15 minutes to show, is entitled "Dr. Wise on Influenza." The doctor on the screen lectures to the audience on the precautions to be adopted by a person suffering from influenza, in the patient's own interest, as well as the interest of those he comes in contact with. The exhortations of the doctor are emphasised by the kinematograph pictures in a popular vein, designed with the intention of leaving a marked impression on the audience. The film is prefaced by an appeal from Sir Auckland Geddes to the public to assist the health officials by adopting the precautions indicated. The Board have a certain number of copies of the film which they are prepared to lend to medical officers of health for exhibition purposes. Application for the loan of a film should be addressed to the Medical Officer of the Board. Medical officers of health might find that the proprietors of halls would be pleased to show the film if requested.

DIARIES FOR 1919.

WITH the advent of the New Year thoughts naturally turn to diaries. Before the war diaries were far more abundant and cheaper, and perhaps not valued as they would be to-day. The first we have received is a block diary for 1919 with a tear-off blank page for each day, measuring 5½ × 4¼ inches, on which as many memoranda can be written as on a postcard, for example. The front cover has a "window" which permits the date and day always to be seen as each slip is detached. Medical men desiring it should make early application to the Anglo-French Drug Co., Ltd., Gamage Building, London, E.C.1.

THE MEDICAL PROFESSION AND THE PETROL RESTRICTIONS.

To the Editor of THE LANCET.

SIR,—Now that there is some sign of the petrol restrictions being abated I think it is not inopportune to direct the attention of the medical profession to an injustice under which they have laboured for some time past. I refer to the price they are being charged for motor spirit. I am informed that No. 2 war spirit is sold at 3*s.* 8*d.* a gallon, and a rebate of the Excise duty on this brings it—the net price—to the doctors, of 3*s.* 5*d.* per gallon. The commercial traveller or managing director of a firm, who uses his car for business purposes, buys No. 2 war spirit, *duty free*, at 3*s.* 3*d.* per gallon, so that he gets it for business purposes at 2*d.* a gallon less than does the doctor. The argument is adduced that the doctor sometimes uses his car for other than business purposes. I am sure we all wish that we had the time and the opportunity to do a little "joy-riding," but it is many a long day since we were able to do so.

I really think that now the general public are to be allowed to use their cars for pleasure purposes—and it is to be hoped that the present exorbitant price of motor spirit will drop to somewhere within the range of the peace-time price—this question of the cost to the doctor of his car for professional purposes might well be reopened.

I am, Sir, yours faithfully,

Nov. 26th, 1918. G. P.

WANTED, A HOME.

To the Editor of THE LANCET.

SIR,—A young married relative wishes to be received as a paying guest in a thoroughly comfortable home, and I have thought that through the medical profession she might hear of what she wants. Our colleagues in country towns often know where such an inmate could be received with mutual pleasure. It is not a question of a doctor's family.

I am, Sir, yours faithfully,

Dec. 2nd, 1918. M.D.

HEREDITARY ABNORMALITY.

To the Editor of THE LANCET.

SIR,—In connexion with this interesting subject (see THE LANCET, Nov. 30th), may I remind your readers of the remarkable instance brought by Dr. H. Drinkwater before the Royal Society of Medicine (Pathological Section) in February, 1917? Dr. Drinkwater's patients, two brothers, each presented symmetrical and bilateral phalangeal synostosis of both hands and both feet. Both patients were in the direct line of descent from John, Earl of Shrewsbury, who fell in battle in 1453. When the Earl's body was exhumed in 1874 it was found that his lordship had suffered from the same abnormalities as his present-day representatives, although thirteen generations had intervened between them.

I am, Sir, yours faithfully,

S. D. CLIPPINGDALE.

Holland Park-avenue, W., Nov. 27th, 1918.

THE FOOD FACTOR.

AT the Royal Institute of Public Health on Nov. 27th Alderman C. Spencer, Director of National Kitchens, traced the intimate connexion between the proper nutrition of the people and their health and productivity. In any scheme for protection against injury and disease local authorities should, he said, bear in mind the true principles of national feeding. In a town of 140,000 inhabitants, for instance, there were 4000 married women going out to work in factories, with the result that their children only obtained "scrap meals." Experience showed that where children got their food from a national kitchen weight regularly increased, while those fed on scrap meals often lost weight. Household methods of cooking had been proved inefficient and wasteful, and were often inimical to the health of the cook. A national kitchen should, in the lecturer's opinion, form an essential part of any new housing scheme. At present there were 800 voluntary and national kitchens in the country, practically all of them paying concerns. The effect of good food on productivity was shown by the fact that the presence of a canteen maintained the curve of output in the factory, which previously had been apt to fall after 11 A.M.

THE PRESENT EPIDEMIC AND THE PRESSURE ON PRACTITIONERS.

IT is necessary to call the attention of the public to means for alleviating the pressure on civil practitioners and enabling them to cope successfully with the excessive work entailed by the present epidemic. Experience seems to show that the most effective means has been the exhibition in a prominent place in the doctor's surgery of a notice saying that it would be impossible to guarantee attendance on patients the same day unless messages were left before a certain hour in the morning. Experience derived from many areas has convinced the General Purposes Subcommittee of the Central Medical War Committee that press notices have done little good compared with the above method.

THE MENACE OF THE MURINÆ.

DURING the year 1917, we learn from the Medical Officer of the Local Government Board, 38,106 rats were trapped in the London Docks. 2912 were examined and 2271 found to be *Mus decumanus*, 578 *M. rattus*, and 129 *M. alexandrinus*. One each of the two former were plague infected. The latest publication of the British Museum (Natural History) trustees, No. 8 of the Economical Series, deals with *Rats and Mice as Enemies of Mankind*, and is from the pen of M. A. C. Hinton (London Natural History Museum, B. Quaritch and Dulau and Co., 1s.). Its appearance is timely in view of the Rat Order of the Ministry of Food. In addition to a brief account of rats and mice in this country, their habits and breeding, the pamphlet deals with their relation to food and health, and suggests measures by which they can be controlled if not exterminated. An appendix contains notes on the structure and classification of the family of Muridæ, of which the Murinæ (rats and mice) are a sub-family, with a key to the British species. References for further reading and the excellent illustrations add to the value of the handbook.

NUTRIENT MEDIA IN THE SHOP.

To the Editor of THE LANCET.

SIR,—At this time one may see at many of the large "stores" little tables ready set out with attractive-looking sweet jellies which customers and their children partake of: they are not covered over, and are usually displayed where hundreds of people pass by, otherwise, no doubt, the latter might not realise they wanted jelly. I see larger savoury jellies also set out in "dressed provisions" departments. If a report on the number and variety of influenza and other disease germs that settle to the square inch on the exposed surfaces of these jellies were published, it might give consumers pause.

I enclose the names of two "emporiums" (which doubtless are only among many) where my statement as to the exposure of these refreshments can be verified.

I am, Sir, yours faithfully,

Nov. 24th, 1918. V. A. D.

Enquirer.—No official figures are available, but we understand that 10 years ago the names of about 800 women were on the Medical Register, and that the number now is between 1500 and 2000, out of a total of nearly 44,000.

Priority.—The subcommittee of the C.M.W.C. dealing with demobilisation has suggested certain principles for the guidance of the Ministry of National Service. The medical men of the T.F. and S.R.—numbering 1500 or so—mobilised at the outbreak of the war will have priority. Matters which will be taken into account in determining early demobilisation are age, civil state, financial and other responsibilities, and the type of practice. Other things being equal, the man over 45 will have preference over the younger man, married over single, private practitioners over whole-timers.